REQUESTS FOR INFORMATION

The following inquiries have been received by Electric Refrigeration News. Readers who can supply information on these subjects are invited to write at once, referring to the Query number.

A Buyer for Ice Cream Cabinets

Query No. 77—"Will you kindly advise us where we can purchase ice cream cabinets designed for electrical refrigeration but less the refrigerating unit?"

Wants Expansion Values

Query No. 78—"Can you supply the names of manufacturers of expansion valves?"

Interested in Silica Gel

Query No. 79—"Can you tell us where we can get information on silica gel, the newest absorbent that was referred to in your recent issue, in the story about the Copeland absorption refrigerator."

Needs Book on Refrigeration

Query No. 81—"In an issue of your paper, ELECTRIC REFRIGERATION NEWS (November 1 issue I believe) I saw an advertisement of a refrigeration manual which dealt with the principles of refrigeration. The name of the publisher, by whom the book was written, and the price which was, as I remember, five dollars. I am in need of such a manual and would appreciate the address of above publisher or any other information which you can give me as to a good refrigeration manual.

Note—The book referred to is "Principles of Refrigeration," by W. H. Mott. This book may be obtained through Electric Refrigeration News, price: Cloth $5.00, Morocco $6.00. Please send remittance with order.

Wants Data on Efficiency of Refrigerants and Compressors

Query No. 82—"We are interested in securing information, relative to any tests that have been made either by company laboratories or by the government relative to the efficiency of the different refrigerants used in mechanical refrigeration; data on the efficiency of rotary and reciprocating type compressors; and a complete list of electric refrigerators now on the market and by whom manufactured."

Metropolitan New York Dealer Available

Query No. 83—"As the writer has had about 25 years' experience in the electrical appliance industry we are open for exclusive New York territory in the metropolitan area, and if you can refer any manufacturer seeking an outlet in this part of the country for their products to us it will be appreciated."

Who Makes Oval Ice Cream Covers?

Query No. 80—"Please advise us of the name of the manufacturer of oval ice cream covers and rims."

OPPORTUNITIES FOR FOREIGN TRADE LISTED BY DEP'T OF COMMERCE

The United States Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, D. C., features a weekly press service known as "What the World Wants." This service is based upon information received from government representatives from different parts of the world regarding specific openings to sell American goods. From this service we have selected the announcements which might be of interest to manufacturer readers of ELECTRIC REFRIGERATION NEWS.

Firms and individuals wishing to obtain further information on any of the announcements listed here should apply to any of the district or co-operative offces of the Bureau of Foreign and Domestic Commerce, centrally located throughout the United States. These offices will be glad to give the inquirer confidential information which is not made public inasmuch as the department prefers to confine its distribution to American firms engaged in selling American goods. In referring to the announcement the number which is given should be used.

The list of districts and co-operative offices of the Bureau of Foreign and Domestic Commerce is given here and is followed by announcements which have been selected from the press service.

The asterisks (*) indicate that the inquirer would act as both purchaser and agent.

*29950	Paints, ready mixed, cold water paints and pyroxylin lacquer (Spain).
*29926	Refrigerators, household, electric (Sweden).
29907	Automobile body fittings, such as hinges, locks and hardware (Czechoslovakia).
29981	Electrical apparatus (Italy).
29942	Household electrical appliances (Venezuela).
30076	Household electrical appliances (Austria).
*30042	Water filters, household attachable to faucets (Brazil).
30026	Varnishes and lacquers (Italy).
30045	Refrigerators, electric (Austria).
29994	Refrigerators (Germany).
30074	Paint, enamel, white and colored (Japan).
30049	Insulating materials (Latvia).
30050	Bending machines, copper tube (Netherlands).
30050	Copper tubes and fitting for water system (Netherlands).
30044	Household electrical appliances (Netherlands).
30132	Refrigerators, household (Italy).
*30167	Refrigerators, electric (Rumania).
30196	Refrigerating machinery, ammonia working (Rumania).
30131	Household electrical appliances (Venezuela).
*30236	Dishwashers, potato peelers, ice cream freezers and other electric equipment for hotels, hospitals and steamships (Netherlands).
30236	Refrigerators, electric (Netherlands).
30249	Refrigeration machinery (Germany).
30305	Varnishes, lacquers and enamels (Rumania).
30356	Lacquers, nitrocellulose (Spain).

Food Specialists Inspired by Increasing Inquiries from Housewives Concerning Electric Refrigeration

Ethel Somers, food specialist, writes of the advantages of electric refrigeration and explains the most important points to be considered in the use and care of refrigerators in an article entitled "Iced Foods from Iceless Refrigerators," which appears in the March 31 issue of *Liberty*, page 69.

"The ever increasing number of letters coming to us making inquiries concerning iceless refrigerators is truly inspiring," says the author in introducing the subject to *Liberty's* women readers. "It is indeed refreshing to know that so many housewives are enjoying this efficient, modern convenience. As the use of mechanical refrigeration becomes more universal, there will be a decided reduction in the consumption of harmful bacteria with our foods. No matter how negligent the housewife may be, her foods within the iceless box are kept really cold."

Recipes for plain ice cream, French ice cream and fruit ice are given in the article.

Frick Appoints Pittsburgh Distributor

The Pittsburgh Refrigeration Co., 113-17 Penn Ave., Pittsburgh, Pa., has become distributor in the Pittsburgh district and surrounding territory for Frick commercial size refrigerating machines.

Attended Kelvinator Institute at New Orleans

J. C. Mans, owner of the Radio Electric Shop, Jennings, La., attended a two weeks' Kelvinator Institute course in New Orleans recently. Kelvinator dealers from Louisiana and Mississippi were in attendance.

NEW BOOKLETS AND LEAFLETS

Direct Advertising of manufacturers received recently.

Servel

Servel Sales Inc., Evansville, Ind., sends in a new booklet entitled "Heat that Freezes," and dealing with the Servel Electrolux domestic refrigerator. The book is designed for distribution by retail stores.

Savory

A folder has been received from Savory, Inc., Buffalo, N. Y., illustrating and giving specifications on Savory refrigerators, designed for use with electric refrigeration units. Among the features of these cabinets, which are given particular attention, are the use of Armstrong cork-board insulation, Wirf's air-tight door gaskets, Armco iron as a base for porcelain, and insulation sealed with Hydroline. These cabinets are all finished with porcelain exterior and interior.

Gruendler

A catalog has been received from Gustav Gruendler Manufacturing Co., St. Louis, Mo., showing models of Gruendler display cases, freezer cases, grocer and meat market refrigerators. Of particular interest to electric refrigeration people is the Gruendler bunkerless all-display case, designed for use with electric refrigeration only.

Dry-Zero

From the Dry-Zero Corp., Chicago, Illinois, comes a booklet on blanket and pliable slab insulation, one of a series on this subject and devoted particularly to the subject of comparative conductivities. In dealing with this subject of conductivities, the book takes as the basis for its discussion a series of conductivity tables, as recently published by the Bureau of Standards at Washington.

Harder

The Harder Refrigerator Corp., Cobleskill, N. Y., has just issued a special supplement to its catalogs numbers 12 and 13, featuring the new Kleen-Kold porcelain refrigerators. The supplement illustrates and contains specifications on these models, which may be used with either ice or electric refrigeration.

Motoco

Motoco industrial thermometers, their use and construction, are given in Catalog No. 4 issued by the Moto Meter Co., Inc., Wilbur Ave., Long Island City, N. Y., and the Moto Meter Co. of Canada, Ltd., Hamilton, Ont., Canada. This thermometer is designed for use in operations where the frequent checking of temperatures is an essential function. It is particularly useful for indicating temperatures in the brine circulating systems of ice cream cabinets.

NEW INSTALLATIONS HERE AND THERE REPORTED TO THE NEWS

The East Tennessee Electrical Supply Co., of Knoxville, Tenn., is installing electric refrigeration in the Knoxville General Hospital which is being remodeled. It is estimated that $25,000 will be spent in installing the electric refrigeration system and making other changes.

The Mary Hitchcock hospital, Hanover, N. H., (controlled by Dartmouth College) has recently installed and has in operation two large special McCray coolers, equipped with Frigidaire.

In flood-swept Vermont and in a town which was completely inundated, the Everett Hotel, Johnson, Vt., has since the flood, installed in its kitchen a new Frigidaire equipped McCray cooler.

The Murdick & Durkee market in Rutland, Vt., has consolidated its two stores into one and installed a new McCray cooler with Lipman automatic refrigeration.

The Vilter Manufacturing Co., of Milwaukee, has recently installed complete refrigerating equipment in the Schroeder Hotel, Milwaukee.

M. L. Lawrence, of Drumright, Okla., recently sold Frigidaire equipment to J. H. Montgomery of the American Cafe in Yale, Okla.

Ed Correra, of Anadarko, Okla., reports the sale of a Kelvinator to the M & N Grocery. This is his fifth sale this year.

The San Antonio Frigidaire sales branch has recently installed refrigeration equipment in the Towers, a new apartment and said to be one of the most beautiful in San Antonio.

Elmer Butler, Frigidaire and Delco Light dealer in Paris, Ark., reports that installations which he made recently of Frigidaire equipment in the Jitney Jungle and Piggly Wiggly meat markets have proved very successful. Mr. Butler's territory is in North Logan and Yell counties. He says that progressive farmers away from electric light and power lines are now installing Delco systems and using the current to saw wood, pump water and operate their Frigidaires.

Plans have been prepared for a ten-story apartment to be erected on West Elm St., Greenwich, Conn., for Joseph Christiano, of 21 LaGrande Ave. There will be 100 apartments, totalling 440 rooms, and each apartment will be equipped with electric refrigeration.

"HOW TO MAKE MORE MONEY IN FOOD RETAILING," TITLE OF NEW BOOK BY McCRAY

"How to Make More Money in Food Retailing" is the subject of a book which has just been made available to food merchants by the McCray Refrigerator Sales Corporation, Kendallville, Ind. In the 31 pages of this book the subject of retail food store operations is covered from the selection of the store location, through to such details as the placing of the cashier's office within the store.

In the foreword of the book, H. M. Stewart, vice-president of the corporation, says that the book has been in preparation for 39 years, and bases his statement upon the fact that Hiram McCray, founder, and his son, E. E. McCray, present head of the business, were provision merchants in 1890 and have always kept close to the food merchants' needs.

In concluding the foreword, Mr. Stewart says: "This little book, we believe, contains facts of vital importance to food retailers on every phase of their business, facts which have a direct bearing on the subject of profits. We present it with our appreciation and our compliments to our good friends, the food merchants of America."

"PLEASE CHANGE MY ADDRESS"

Recent movements of Electric Refrigeration News subscribers as indicated by requests for changes in mailing addresses.

Belcher, J. M., from 3209 Knox St. to 418 N. St. Paul, Dallas, Texas.

BeMet Machine Products Co., George Bean, from 4196 Bellevue Ave. to 4725 Ellery, Detroit, Mich.

Bigelow, R. M., from 3412 Springarden St., Philadelphia, Pa., to c/o: Bannister & Pollard Co., 418 Washington St., Newark, N. J.

Brown, R. V., from Suite 18, Haether Apts., 247 Young St., Winnipeg, Man., Canada, to 201 Pacific Ave., Toronto, Ont., Canada.

Browne, Herbert W., from The Bienville Hotel, New Orleans, La., to 1034 Allen Bldg., Dallas, Texas.

Craig, Paul K., from 2584 Wellington Rd., Cleveland, Ohio, to General Delivery, Yonkers, N. Y.

Donavan, J. J., from 1153 Murrayhill Ave., Pittsburgh, Pa., to Gen. Elec. Co., Hanna Bldg., Elec. Refrg. Div., Cleveland, Ohio.

Dunn, Roy P., from 3715 Woodland Ave., Kansas City, Mo., to 3717 Woodland Ave., Kansas City, Mo.

Electric Device Co., from 105 Chestnut St., Springfield, Mass., to 119 Dwight St., Springfield, Mass.

Fletcher, R. C., from 30 Hathaway St., Providence, R. I., to c/o: Brownwell Hdw. Co., 15-17 Railroad Ave., Attleboro, Mass.

Geiger, C. E., from 128 Marathon Ave., Dayton, Ohio, to 3552 Graceland, Indianapolis, Ind.

Godshall, C. L., from 116 S. Elmarr, Oak Park, Ill., to 620 Ferdinand, Forest Park, Ill.

Hoff, Earl B., from Martin-Parry Corp., York, Pa., to 3373 Delwood Rd., Cleveland, Ohio.

Kavanaugh, P. J., from 1615 Monroe St., Madison, Wis., to 8910 Mackinaw Ave., Detroit, Mich.

King, W. K., from West Shore Hotel, New York, N. Y., to Bank Head Hotel, Birmingham, Ala.

McLaughlin, Roy D., from 856 Wayne St., Martin-Parry Corp., York, Pa., to 856 Wayne St., York, Pa.

Petty, H. E., from 801 West Euclid, to 9115 LaSalle Blvd., Detroit, Mich.

Rogers, A. C., from 3209 Knox St., to 418 N. St. Paul, Dallas, Texas.

Stauton, LeRoy, from 10 S. LaSalle St., Chicago, Ill., to 3 West 40th St., New York, N. Y.

Taylor, J. B., from 29 Warner Plaza, Kansas City, Mo., to Gotham Apt. Hotel, 2718 Linwood Blvd., Kansas City, Mo.

Walter, W. S., from Martin-Parry Corp., York, Pa., to 240 Robb St., Lima, Ohio.

Wattles, Waldo M., from 2106 Euclid Ave., to 2025 East 77th St., Cleveland, Ohio.

Whiteley, W. F., from 3209 Knox St., to 418 N. St. Paul, Dallas, Texas.

Wilkinson, H. M., from Box 165, Mountain View, N. J., to c/o: Hotel Lenox, 149 West 44th St., New York, N. Y.

Wooten, E., from 529 Kensington, Roanoke, Va., to 304 Hillside Ave., Nutley, N. J.

X. L. Refrigerating Co., Inc., from 59th & Monroe St., Chicago, Ill., to 1834 West 59th St., Ogden Park Station, Chicago, Ill.

New York Edison Erecting Giant Power Plant

Representatives of civic and commercial associations of New York City, on March 9, inspected the new electric generating station being erected on the East River at 14th St. by the New York Edison Co. When completed the new station will have nine generating machines with a total capacity of 1,250,000 kilowatts, or nearly 1,750,000 horsepower. The construction is expected to continue in process for a period of ten years, being designed to provide for increases in the utilization of electricity during that period. The cost of the completed structure is expected to exceed $100,000,000.

Sells Seven Units In a Week In Town of 500

Seven Copeland refrigerator sales in one week in a little town of only 500 population is the record of Chris Miller, of Miller & O'Brien, Pilger, Neb. Mr. Miller has been in the electric refrigeration business only a short time.

"We are in receipt of another copy of your interesting paper which the writer looks forward to receiving. It contains complete information and interesting data for the business."—C. P. Staab, Seeger Sales Corp., New York City.

THE CONDENSER

A CLASSIFIED COLUMN OF OPPORTUNITY

REPLIES to box number advertisements should be addressed to Electric Refrigeration News, 554 Maccabees' Bldg., Detroit, Mich.

ADVERTISING RATES—this column only:

POSITIONS WANTED (special rate if paid in advance): 50 words or less, one insertion, $2.00, additional words 4 cents each. Three insertions, $5.00.

POSITIONS AVAILABLE, For Sale, Business Opportunities, and all other classifications (special rate, if paid in advance): 50 words or less, one insertion, $3.00, three insertions $8.00, additional words, 5 cents each.

LINE RATE (open account): 50 cents per line.

POSITIONS AVAILABLE

Would like to get in touch with a refrigerating engineer to complete an idea on electric refrigeration. Electric Refrigeration News, Box No. 68.

POSITIONS WANTED

ENGINEERING EXECUTIVE, connected with electric refrigeration for ten years, desires connection with responsible manufacturer in temporary or permanent capacity as consulting or chief engineer. Capable of taking complete charge of engineering and manufacturing. Inventor and owner of widely used patents. Well acquainted with patent situation. Box 52.

Service man thoroughly experienced in commercial and multiple hook-up installations. In reply, state present and past employers, type of work done and salary expected. Box No. 69.

Kelvinator-Nizer sales executive, now employed as sales manager, desires new connection with a well financed firm which will give full cooperation. Knowledge of American and Canadian business methods. Prefer Kelvinator-Nizer connection but have working knowledge of other machines. No particular preference as to location. Box No. 71.

Refrigeration man with four years experience, traveling factory representative for the past two years, assisting dealers and jobbers of the states of Pennsylvania, New Jersey, Maryland and West Virginia in their installation and maintenances, desires position in vicinity of New York. Box No. 72.

Desires assured factory connection as sales manager, assistant sales manager, district sales manager or branch manager. Sales executive, promotion, training, territorial supervision, advertising and publicity operation. Extensive public utility, industrial and domestic outlet contact. Nine years with one manufacturer with excellent references. Highest reputation with all field connections as to ability and efficiency. Eastern, southeastern or southern territory preferred with Washington, D. C., headquarters. Box 73, Electric Refrigeration News.

SPECIAL SERVICE

MANUFACTURERS & DEALERS: To those who have discontinued sales and service on refrigerators in Greater New York we have a service to offer. Refrigeration Service Company, Inc., 449 W. 42nd St., New York City.

DEALERS IN THE METROPOLITAN DISTRICT OF GREATER NEW YORK: Consult us regarding your service problems. You can reduce your costs and retain your customers' goodwill by taking advantage of our services. Telephone Chickering 0460 or write Refrigeration Service Co., Inc., 449 W. 42nd St., New York City.

MANUFACTURERS: We have elastic facilities for warehousing from one to one thousand machines as demand requires at a small monthly storage charge per machine. Avoid the mistakes of excessive overhead for warehousing, installing and servicing. Establish a New York City office, appoint dealers for selling only, we do the rest. Write Refrigeration Service Company, Inc., 449 W. 42nd St., New York City.

Refrigeration Service Co., Inc.
SERVICE SPECIALISTS
Maintenance, Installations, Alterations, Repairs
New York City
Telephone: Chickering 9460
Office and Works: 449 West 42nd St.
Warehouse: 281 11th Ave.

What Will You Offer?

$16,000 retail value latest type, nationally advertised household refrigerators for ice or mechanical operation in all porcelain models now at factory in original crates; all sizes; for cash immediate delivery. Sold to use up factory credit account overstock. We expect to take a loss; will sell much lower than highest factory discounts. Write or wire to Box 70, Electric Refrigeration News. Will be sold on first offers, all or part.

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

VOL. 2, No. 16, SERIAL No. 40

DETROIT, MICHIGAN, APRIL 11, 1928

Entered as second class matter August 1, 1927, at the Post Office, Detroit, Michigan.

PRICE TEN CENTS

NEW YORK N. E. L. A. HOLDING THREE DAY APPLIANCE MEETING

Electric Refrigeration Given Prominent Place In Discussion

A three-day conference on the use of electrical appliances in the home, the sessions on two days being open to the general public, is being held in New York City on April 10, 11 and 12, under the auspices of the Home Service Bureau, Metropolitan New York Section of the National Light Association.

The April 10 and 11 sessions were to be held in the Bronx offices of The New York Edison Co., at 555 Tremont Avenue, and those of April 12 at Teachers College, Columbia University. The daily conferences continue from 9 a. m. to 4 p. m.

The topics to be discussed include such titles as "Electrical Devices from the Housekeepers' Standpoint," "Electrical Appliances as Used in the Home," "The Modern Kitchen," "Principles of Electric Refrigeration," "Benefits of Refrigeration," "How Can Electrical Appliances be Made More Useful to the Home Maker?" "Basic Points that Determine Value of the Vacuum Cleaner," "Present Tendencies in Home Lighting," "Electric Heat," "What Do You Eat?" "Electric Cold."

Among the speakers are Mrs. Cecil G. Harvey, director of the Home Service department of the Westchester Lighting Co., who is chairman of the conference. Miss Marion Brainard, manager of the Educational Bureau of The New York Edison Co., Earl Whitehorne, commercial editor of *Electrical World*, S. Bennis, power engineer, United Electric Light and Power Co., New York Section, Miss Katherine Fisher, director, Good Housekeeping Institute, Dr. A. H. Ryan, research section, engineering department, The Hoover Co., A. L. Powell, manager, engineering

(*Concluded on page 2*)

NEW DRY ICE PLANT BEING ERECTED AT ELIZABETH N. J.

A new plant being erected by the Dry Ice Corp. of America, in Elizabeth, N. J., is expected to be put into operation this month. It will have a capacity of 25 tons of Dry Ice (solidified carbon dioxide) per day. The company now has in operation plants in Yonkers, N. Y., Maspeth, L. I., and Philadelphia, Pa., with a total capacity of approximately 30 tons per day.

A report to stockholders, under date of February 6, 1928, furnished by Kiely and Horton, investment securities, 40 Wall Street, New York, states that "in accordance with the action taken by the 1928 Corporation and approved by the 1927 Corporation, all of the assets of the 1922 Corporation have been transferred to the 1927 Corporation and the former corporation has been dissolved. The preferred stock of the 1927 Corporation which was issued for such property has been practically entirely distributed among the holders of the preferred stock of the 1922 Corporation in retirement of their preferred stock and to complete the distribution of the assets of the former corporation."

August Heckscher is chairman of the board and Robert H. Rust is president.

SAYS CALIFORNIA FARMS OFFER ATTRACTIVE MARKET

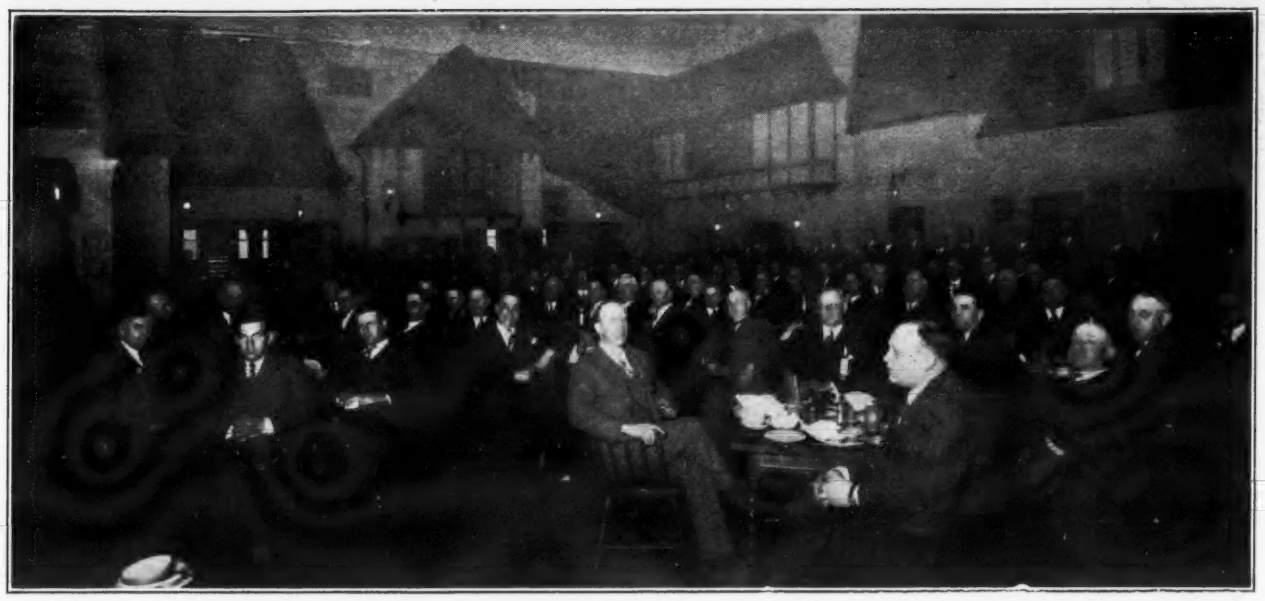
Electric refrigeration installations are being made at a rapid rate in Fresno, Calif., and in the rural communities surrounding that city, according to A. C. Joy, of the San Joaquin Light & Power Co., at Fresno. In a letter Mr. Joy says, "Frigidaire, General Electric, Servel and Kelvinator have agencies here with large and busy staffs of salesmen.

"Refrigerators are going into homes at a very rapid rate. We have a hot summer climate and refrigeration has always been a problem in the country homes away from the regular channels of ice distribution. The great majority of farm homes in our territory have electric service, and consequently the electric refrigerators have leaped into enormous popularity."

TRI-STATE ELECTRIC CO. HOLDS DEALERS' SCHOOL

Tri-State Electric Co., of Sioux Falls, S. D., distributors of Zerozone electric refrigeration in that territory, recently held a dealer and service school, thirty-five dealers attending. The Tri-State Electric Co. have been Zerozone distributors for the past three years. N. T. Ronan, in charge of sales, states that the sales in his territory for 1928 will more than double last year.

A French Courtyard Breakfast Starts the Day



An old world atmosphere surrounded the breakfast session of the General Electric dealers meeting at Boston

WOODBRIDGE TALKS TO NEW ENGLAND KELVINATOR DEALERS

Five New Models Shown at Boston Convention

Kelvinator Corporation of Detroit held its New England district convention on March 27, at the Hotel Statler, Boston, Mass., and approximately 300 dealers and distributors were in attendance. The meeting was one of three held simultaneously, the other two being in Chicago and Salt Lake City, respectively.

The New England convention was favored by the presence of President C. K. Woodbridge, who is also president of the International Advertising Association. Mr. Woodbridge was one of the speakers of the occasion and predicted continued popularity for this oldest of electric domestic refrigerators. He pointed out that the company was the second largest producers of electric refrigerators and the largest independent manufacturer in the field.

Mr. Woodbridge declared that he expected the electric refrigerator to pass the automobile in the volume of sales in the next three or four years. The industry he said had undergone the process of intensive development during the past five years.

J. S. Sayre, manager of the New England District, explained the purpose of the convention, which was, he said for the better acquaintance of the personnel in New England and to explain to dealers sales methods, new ideas and to acquaint the force with the five new models which were on exhibition.

The other principal speakers of the meeting were J. A. Corcoran, Detroit, sales promotion manager; J. M. Fernald, of the commercial sales division of the Kelvinator Corporation, Detroit; and A. P. Smith, Boston district service officer.

The various speakers covered very thoroughly all points in the marketing and distributing of Kelvinators. Briefly the main subjects discussed covered the Kelvinator new domestic line, the new ice cream cabinet plan, the relation between the factory and the dealer, and very intensive discussion of advertising plans, including display arrangements, literature, and magazine and newspaper campaigns for 1928.

The convention was concluded with a jollification dinner. President Woodbridge congratulated those present for their interest and loyalty, and predicted a better year than ever for 1928.

MAAS AND WALDSTEIN WILL MOVE NEW YORK OFFICE MAY 1

After May 1, the New York office of the Maas & Waldstein Co. will be permanently located at 438 Riverside Avenue, Newark, N. J. The factory being located at this point consolidates all departments. A new building now under construction will provide ample space for both the executive and factory offices.

A new building for the manufacture of enamels and a new boiler house were completed last year to provide additional facilities for making lacquers and enamels to take care of a larger volume of business and a constantly growing number of customers.

A Los Angeles office and warehouse opened about a year ago has extended the distribution of Mawalac products for finishing metal and wood articles to the Western coast. The Pacific coast branch, as well as representation in the Southern States, completed the program of expansion for last year to supplement the Chicago office and warehouse in the central states.

SPRING MEETING OF A. S. R. E. TO BE HELD IN DETROIT, JUNE 4-7

With plans for an authoritative technical program already taking shape, the Fifteenth Western Meeting of the American Society of Refrigerating Engineers to be held June 4, 5, 6 and 7 in Detroit, promises to furnish an interesting as well as enlightening contribution to the science of refrigeration.

Silica gel, fish freezing and transport, motors and the toxic properties of various refrigerants are among the topics to be discussed, according to the program committee. Besides the technical committee reports, papers will be presented at sessions devoted to the subjects which they cover. Papers to be read will be announced later.

In addition to the work of the Program committee, a local committee consisting of George B. Bright, C. C. Spreen, C. F. Belshaw, Donald Ellis and A. D. McLay, is laying plans for making the meeting a success in more than a technical way. Special entertainment is being offered the women, who are urged to come for this occasion.

McELHINNEY ON TOUR WITH COPELAND SALES AND SERVICE SCHOOLS

How to sell and how to service. These two vital points are being driven home throughout its entire organization by Copeland Products, Inc., Detroit, Mich., through a series of schools with officials of the company playing the roles of schoolmasters.

The service school has been operating for some time at the factory in Detroit, but the sales schools were just re-instituted this Spring with W. D. McElhinny, vice-president in charge of sales, assisted by V. E. Vining of the sales section.

First of the service schools was at the Strelinger-Copeland salesrooms, Detroit, distributors for the Copeland products, and was attended by some 200 distributors, dealers and salesmen from the state. Mr. McElhinny and Mr. Vining explained the selling points of the Copeland line. Emphasis was placed on the fact that the Copeland refrigerators are designed especially for the women, with every thought taken to make her work easier in the kitchen.

Following this opening school, a similar session was held in Syracuse March 23. The schedule also includes: Lincoln, Neb., Mar. 26; Cincinnati, March 27; Dallas, March 29; Oklahoma City, April 2; Kansas City April 4. This schedule is to be enlarged to cover the entire field.

At the service school Harry Burman of the service department puts the field men, sent to the factory by distributors and dealers, through a thorough course in installation and servicing including the new multiple hook-up.

Lincoln Refrigeration Company, Incorporated

Articles of incorporation have been filed at the state capitol of Lincoln, Neb., for the Lincoln Refrigeration Co., with capitalization at $10,000. The company will manufacture and install electric refrigerators, motors and other equipment.

NEW ENGLAND G. E. DEALERS HOLD SPRING MEETING AT BOSTON

7:45 Breakfast Opens One-Day Session

The General Electric Refrigerator Company of New England, Boston, Mass., held its Spring dealers' meeting on March 21, the first day of Spring. The program started with a salesman's breakfast at 7:45 at the Old France, a unique restaurant in the Back Bay section of Boston. A member of the Boston distributor's organization tells of the day's events: "Two hundred retail salesmen assembled to sing the opening songs of 'Oh How I Hate to Get Up In The Morning,' and 'Hail, Hail, The Gang's All Here.'" 'Charlie' Roesch and Walter Daily were greeted with topical songs sung by Miss Corinne Maguire of our clerical force. Short and snappy speeches were made by Charles Pike Dow, president of the Electric Refrigerator Co., by Mr. Daily and Mr. Roesch, both from the Cleveland office, Mr. Gabeler, retail sales manager, and others. Prizes and bonuses for the previous week's work were distributed.

"The first session of the dealers' meeting proper was held at the company's assembly hall at 729 Boylston Street. W. H. Nutter presided as chairman. Opening remarks were made by Mr. Dow, and an inspiring address on New England as a market was given by J. D. Henderson of the firm of Henderson and Ross, New England's largest real estate firm. Henderson and Ross are the promoters of the great New England building which will occupy two and one-half acres of the center of the town, and which will cost twenty million dollars.

"The General Electric icing unit was demonstrated by W. D. Trawick from the Schenectady works, and at 12:30 adjournment was taken for a buffet lunch which was prepared by the company's modern kitchen, maintained by the home service department.

"The afternoon session included talks by E. R. Gabeler, Walter Daily, and C. E. Roesch, and William Keay of the J. G. White Co. The day's proceedings were summarized by Charles Gould, wholesale manager of the Electric Refrigerator Company.

"In the evening dinner was served at the Hotel Brunswick at 7:00 o'clock. Miss Corinne Maguire sang a song to our eminent sales manager, P. B. Zimmerman, from the Cleveland office, and there was music and entertainment throughout the evening. The closing address, 'Building for the Future-Today,' was given by Mr. Zimmerman.

"About one hundred and twenty-five dealers attended the morning and afternoon meetings, and one hundred and sixty sat down to dinner."

OWEN YOUNG SAYS FARMERS WILL INSTALL CO-OPERATIVE REFRIGERATION PLANTS

Owen D. Young, chairman of the board of directors of the General Electric Co., in a recent talk outlined the future of the electrical industry and incidentally touched upon the possibilities for expansion of electric refrigeration when he spoke of the importance of taking electricity into the remote suburban sections of the country. In part Mr. Young said:

"The electrification of the farms will mean the installation of electric refrigeration plants, large ones, co-operatively owned by the farmers in one section, or smaller ones on the farms, so that the farmer can keep his fruit and produce and control his markets."

ENGINEERS ORGANIZE NEW ASSOCIATION OF MACHINE COMPANIES

Uniformity in Safety Codes Recommended at Initial Meeting

Preliminary steps were taken in the organization of an association of the manufacturers of electric and gas operated refrigerating machines under one ton capacity when engineers representing ten companies met at the Hotel Statler, Detroit, Mich., Tuesday, April 10. Seventeen companies were invited to send representatives to the meeting which was called by C. C. Spreen, chief engineer of the Kelvinator Corp., following recent conferences with officials of the American Society of Refrigerating Engineers and the American Engineering Standards Committee, at which attention was called to the need for an association to represent the industry officially in activities pertaining to national and local safety codes, standardization of parts, and other matters affecting the sound development of the industry.

Immediate action was necessary on account of pending legislation in the State of Ohio, the District of Columbia, and other sections of the country. On account of the short notice given, some of the companies were unable to send representatives but plans were made for a second meeting at which it is expected that all companies actively engaged in the manufacture of automatic, electric and gas operated machines will be in attendance.

Automatic Refrigeration Association to Have Company Members Only

A committee was appointed to draft a constitution and by-laws for the organization which is to be known as the Automatic Refrigeration Association. This name was selected in order to include companies making both electric and gas machines and in order to distinguish the group from those companies making heavy machinery which is manually operated.

Important action was taken by the temporary organization with reference to the National Refrigeration Code, which is now in the process of revision by the American Engineering Standards Committee and the state refrigeration code which is now

(*Concluded on page 2*)

WILL HAVE PLYMETL ASSEMBLY PLANT FOR BUFFALO DISTRICT

W. H. Gould, president of the Bison Ice & Coal Company, 200-236 Rapin Place, Buffalo, New York, has recently signed a Plymetl refrigerator assembly plant franchise. They intend to have the Plymetl refrigerator assembly plant in operation at the above address within the next 60 days and will then be prepared to receive orders for the Buffalo district.

Mr. Gould's experience in the ice and the refrigerating industry covers a period of many years. With the completion of the new plant they intend to establish, they will be well prepared to give service to the dealers in that locality.

MECHANA-KOLD PLANT MOVED TO ARCADE, N. Y.

The Mechana-Kold Corporation announce the removal of their entire factory from Bayshore, N. Y., to their new and larger plant at Arcade, N. Y., on April 7.

Manufacturing facilities have been greatly increased, and the corporation has extended its line to include water coolers, ice cream cabinets, and small commercial machines.

OHIO PUBLIC SERVICE TO SELL 1500 UNITS IN 45 DAYS

T. L. Dunn, General new business manager of the Ohio Public Service Co., Cleveland, Ohio, reports that this company is just beginning a spring refrigeration campaign with a total of 72,000 customers. The sales managers have accepted a quota of 1500 units to be sold in 45 days.

U. R. Loranger, President of Automatic Freezer Syndicate, Dies

U. R. Loranger, president of the Automatic Freezer Syndicate, Detroit, Mich., died on March 17. Mr. Loranger was at one time a practicing lawyer and later was with Kelvinator Corp. Following this he was instrumental in the development of the Electro-Freeze machine.

Mr. Loranger will be succeeded in the presidency of the Syndicate by Milton T. Watson, who has been associated for a number of years with Mr. Loranger in the building up of the present organization.

Metropolitan New York Kelvinator Meeting

Kelvinator men from New York, New Jersey and Connecticut attended this sales luncheon at the Hotel Commodore, New York City, April 7

AUTOMATIC REFRIGERATION ASSOCIATION ORGANIZED AT ENGINEERS MEETING

(Concluded from Page 1, Column 5)

being considered by the Ohio Industrial Commission. Resolutions were passed requesting legislative bodies now considering refrigeration codes to withhold action until the adoption of the National Code in order that such requirements may be uniform throughout the country. Multiple systems, installations in public buildings, the use of relief valves and service shut-off valves and other details of the proposed National Code were discussed.

Invitations to send representatives to the meeting, were wired or telephoned to the following companies:

Wayne Company, Fort Wayne, Ind.
Welsbach Company, Gloucester, N. J.
Servel, Inc., New York, N. Y.
Savage Arms Corp., Utica, N. Y.
Iroquois Electric Refrigeration Co., Philadelphia, Pennsylvania.
Lamson Company, Syracuse, N. Y.
Iron Mountain Co., Chicago, Ill.
Icemaster Company, Haverhill, Mass.
General Electric Co., Cleveland, Ohio.
Rice Products, Inc., Detroit, Mich.
Norge Corporation, Detroit, Mich.
Copeland Products, Inc., Detroit, Mich.
Universal Cooler Co., Detroit, Mich.
General Necessities Corp., Detroit, Mich.
Stroh Products, Inc., Detroit, Mich.
Kelvinator Corp., Detroit, Mich.
Frigidaire Corp., Dayton, O.

Those who attended the meeting and the companies represented were as follows:

L. S. Keilholtz (*chairman*) chief engineer, Frigidaire Corp., Dayton, O.
C. C. Spreen, chief engineer, Kelvinator Corp., Detroit, Mich.
Glen Muffly, chief engineer, Copeland Products, Inc., Detroit, Mich.
Howard R. Lukens, general manager, refrigeration division, Welsbach Co., Gloucester, N. J.
T. S. Pendergast, General Necessities Corp., Detroit, Mich.
E. T. Williams, Servel, Inc., New York, N. Y.
T. E. Carpenter, Rice Products, Inc, Detroit, Mich.
R. G. Nelson, Norge Corp., Detroit, Mich.
Carlos J. Jolly, General Motors Corp., Detroit, Mich.
F. M. Cockrell, editor, ELECTRIC REFRIGERATION NEWS, Detroit, Mich.
The Universal Cooler Corp., was unable to send a representative, but authorized C. C. Spreen to represent them.

Changes in Proposed National Safety Code Recommended

In discussing the proposed National Safety Code, which is now in the hands of the various committees representing the refrigeration section of the American Engineering Standards Committee, the representatives at the meeting were unanimous in their agreement regarding practically all matters with the exception of multiple installation. In this, E. T. Williams, representing Servel, Inc., dissented from the others who were favorable to this method of installing equipment in apartments.

The vote on multiple systems was as follows:

In favor:
C. C. Spreen, Kelvinator Corp.,
R. G. Nelson, Norge Corp.,
T. S. Pendergast, General Necessities Corp.,
Glen Muffly, Copeland Products, Inc.
T. E. Carpenter, Rice Products, Inc.
L. S. Keilholtz, Frigidaire Corp.

Against:
E. T. Williams, Servel, Inc.,

Referring to other requirements of the proposed code, it was agreed that the limitations on the direct method of refrigeration in public buildings are unreasonably severe. Opposition was expressed to the requiring of pressure relief valves in systems having less than 100 pounds of refrigerant, but fusible plugs and service shut-off valves were recommended.

Those present at the meeting expressed their satisfaction with the accomplishments of the first session and their belief in the constructive work which may be carried on by co-operative efforts in the interest of the industry as a whole. Up to this time, the burden of meeting the situations which have arisen in various parts of the country has largely developed upon the engineers of a few large companies and these men have been handicapped due to their inability to speak authoritatively for the industry and in accordance with the procedure which has become thoroughly established and which is recognized by the government. The new association will provide for representative action and orderly procedure in standardizing activities and other movements of common interest.

DETROIT SECTION A. S. R. E. MEETING SET FOR APRIL 19

Developing the market, training salesmen and other commercial phases of electric refrigeration, will be treated in the program being arranged by F. B. Riley for the next meeting of Detroit Section, American Society of Refrigerating Engineers, to be held at the Detroit Engineering Societies Building, 478 W. Alexandrine St., Thursday evening, April 19.

NEW YORK SECTION OF N.E.L.A. HOLDS THREE DAY APPLIANCE MEETING

(Concluded from Page 1, Column 1)

department, Edison Lamp Works of the General Electric Co., William L. Leffler, electrical engineer, Dr. C. J. Lynde, Dr. Grace MacLeod and Miss Eva Wilson, the last three being of Teachers College.

The program in detail is as follows:

Tuesday, April 10—Held at 555 Tremont Avenue, The Bronx.

Greetings—Mrs. Cecil G. Harvey, chairman, home service committee, director, home service department, Westchester Lighting Company.

Mrs. Mildred Maddocks Bentley, associate editor, *The Delineator*, "Electrical Devices from the Housekeepers' Standpoint."

Miss Inez La Bozzier, lecturer, North American Dye Corp., Mount Vernon, New York, "Demonstration."

Roger Williams, Landers, Frary & Clark, 200 Fifth Avenue, New York City, "Electrical Appliances as Used in the Home."

Demonstration and discussion, demonstrator, Landers, Frary & Clark, 200 Fifth Avenue, New York City.

Concluding demonstration of "Electric Appliances in the Home."

F. L. Pembleton, assistant to vice-president in charge of sales, Public Service of New Jersey, Newark, New Jersey, "Home Service."

Miss Ada Bessie Swann, chairman, home service committee, National Electric Light Association.

Miss Marion Brainard, manager, educational bureau, contract and inspection department, New York Edison Co., New York City, "The Modern Kitchen," illustrated with lantern slides.

Wednesday, April 11—Held at 555 Tremont Avenue, The Bronx.

Registration and inspection of showroom, New York Edison Co., 555 Tremont Avenue, New York City.

Earl Whitehorne, commercial editor, *Electrical World*, New York City, "Speaking as a Friend of Mary's."

S. Bennis, power engineer, United Electric Light and Power Co., and president, The American Society of Refrigerating Engineers, New York section, "Principles of Electrical Refrigeration."

Russell Prugh, eastern district sales manager, Frigidaire Corp., New York City, "Benefits of Refrigeration."

Miss Katherine Fisher, director, Good Housekeeping Institute, New York City, "How Can Electrical Appliances be Made More Useful to the Home Maker?"

Dr. A. H. Ryan, research section, engineering department, The Hoover Co., North Canton, Ohio, "Basic Points that Determine Value of a Vacuum Cleaner."

A. L. Powell, manager, engineering department, Edison Lamp Works, Harrison, New Jersey, "Present Tendencies in Home Lighting."

William L. Leffler, electrical engineer, 135 Broadway, New York City, "What Lighting Service Means to a Central Station."

Mrs. Sarai Waugh, lighting specialist, home service division, Westchester Lighting Co., Mount Vernon, N. Y., "The Development of Lighting Service by Westchester Lighting Company."

Thursday, April 12—Held at Teacher's College, Columbia University.

"Electric Heat" Lecture with demonstrations—Dr. C. J. Lynde, 507 Dodge Hall, Columbia University, 525 West 120 Street, New York City.

Visit to Practical Arts departments. Cookery, dressmaking, millinery, music, fine arts and science.

"What Do You Eat?" Does it Make any Difference?" Lecture with demonstrations, Dr. Grace MacLeod, 507 Dodge Hall, Columbia University, 525 West 120th Street, New York City.

"Electric Cold." Lecture with demonstrations—Dr. C. J. Lynde, 507 Dodge Hall, Columbia University, 525 West 120th Street, New York City.

"Electrical Equipment from the Housewife's Standpoint." Lecture with demonstrations, Miss Eva Wilson, 505 Dodge Hall, Columbia University, 525 West 120th Street, New York City.

G. M. Johnson Elected City Treasurer of Waterloo, Iowa

G. M. Johnson, of Waterloo, Iowa, consulting refrigeration engineer, has been recently elected to the office of city treasurer of the city of Waterloo. As the duties of this office permit of other employment, Mr. Johnson will continue to be interested in refrigeration work, both for companies manufacturing domestic units and those larger plants using ammonia equipment.

Copeland Shipments Show Increase In First Quarter

Copeland Products, Inc., Detroit, reports the largest first quarter's shipments in the company's history, with an increase of 45 per cent over the first quarter of 1927.

Dealer Convention Opens General Electric Spring Sales Campaign in Michigan

400 dealers attended the General Electric banquet at the Hotel Statler, Detroit, on March 15

NEW APARTMENT HOUSE UNIT UNVEILED BEFORE MICHIGAN G. E. DEALERS

Announcement of New Model a High Spot in One Day Convention at Detroit

"I want every one of you men to bring or send in tomorrow, one bona fide order for a General Electric refrigerator," was the final statement made by A. L. McCormick, of the Electric Utilities Corp., Detroit, General Electric Refrigerator distributors, before a group of some 400 Michigan dealers which met in a Spring sales conference with officials of the General Electric Co., electric refrigeration department, of Cleveland, at the Hotel Statler, Detroit, on Thursday, March 15.

The statement made by Mr. McCormick brought to a close a day filled with discussions of dealers' problems, talks by representatives of the Cleveland General Electric organization and by men prominent in other refrigeration activities, as well as movies, a banquet and other entertainment. The afternoon meeting was devoted to discussions of problems which are confronting the electric refrigeration dealer at the present time.

At six thirty, the entire group sat down to a banquet during which music was supplied by an orchestra and other entertainment given by members of the Detroit distributor's organization. A. L. McCormick was toastmaster and introduced as the speaker of the evening, P. B. Zimmerman, sales manager of the refrigerator department in Cleveland, who outlined the history of the development of the General Electric refrigerator.

Following Mr. Zimmerman's talk, the General Electric moving picture on "Liquid Air," was shown and at the same time through a specially arranged connection, a portion of the Dodge Brothers radio program featuring famous moving picture stars and Paul Whiteman's orchestra was heard.

George B. Bright, president of the American Society of Refrigerating Engineers, then addressed the group discussing the relation of the ice industry to the electric refrigeration industry and touching upon the future possibilities of refrigeration as applied to the cooling of the ordinary home.

Perhaps the most interesting event of the day's program was the announcement and unveiling of the new General Electric apartment house refrigerator by J. J. Donovan, in charge of apartment house sales at the Cleveland office. This new model is designed so as to take up a small amount of floor space and at the same time provide a sufficient food storage capacity for the average apartment. As with all other General Electric refrigerators, it has the compressing unit on the top. Both interior and exterior are finished in white porcelain.

W. J. Daily, sales promotion manager of the General Electric Refrigeration Department, told of the numerous helps which have been and are being brought out to enable the General Electric dealer to make more sales. He emphasized the fact, however, that the mere supplying of these dealer helps means nothing unless the dealer will see to it that they are properly used.

F. M. Cockrell, editor of ELECTRIC REFRIGERATION NEWS, Detroit, next addressed the meeting referring particularly to the subject of unfair competition, and emphasizing the truth contained in a statement made previously by Mr. McCormick, that "a winner never knocks and a knocker never wins." Mr. Cockrell also brought to the attention of the group the great value of a friendly relationship between the electric refrigeration dealer and the utility company.

Following Mr. Cockrell's talk, several playlets were given by members of the Detroit distributor's organization bringing out the correct and incorrect methods of handling the prospect, both in the store of the dealer and in the home of the prospective customer.

Courtesy of *Detroit Free Press*

A. L. McCormick

In bringing the meeting to a close, Mr. McCormick brought home the necessity of seeing the prospect not within a day or two, but today, and offered a prize to each salesman who would turn in one bona fide order on the day following the meeting.

W. R. Rilling, of Underwriters Laboratories, Joins Zerozone Engineering Staff

W. R. Rilling, formerly assistant engineer in charge of the Casualty Division of the Underwriters' Laboratories, has joined the engineering staff of the Iron Mountain Co., makers of Zerozone electric refrigeration, as assistant chief engineer.

Much of Mr. Rilling's work with the Underwriters' Laboratory was testing all types of mechanical refrigeration machines and he brings to Iron Mountain Co. a valuable experience.

Government Collecting Data on Installment Selling

The National Retail Credit Association is co-operating with the Bureau of Foreign and Domestic Commerce in a national survey of credit methods in retail business, being conducted under the direction of Dr. Frank M. Surface.

Special attention is being given to installment selling and the cost of various credit plans will be studied in detail. Comparisons will be made between the totals of credit extended on installment sales and on monthly accounts.

Biechler Addresses Battle Creek Group

E. G. Biechler, president and general manager of Frigidaire Corp., Dayton, Ohio, spoke before the Battle Creek Knights of the Round Table, at their luncheon at Post Tavern, Battle Creek, Michigan, on March 21. He addressed the group on the subject of "How to Make Good," and declared that the secret was in the motto of the Round Table, "He who seeks to serve another best serves himself."

J. J. Donovan Transferred to Cleveland G. E. Office

J. J. Donovan, formerly General Electric representative for the Pittsburgh district of the electric refrigeration department, has been transferred to the Cleveland office as an apartment house installation specialist.

"All of us are very glad to read your paper as it certainly does give us up to the minute insight on electric refrigeration."—L. L. Murray, Sales Department, Bohn Refrigerator Co., St. Paul, Minn.

New Norge Distributor for State of Washington

Complete facilities to supply equipment and serve purchasers of Norge electric refrigerators have been provided by the Norge Electric Refrigeration Co. of Washington, Seattle, Wash., according to D. D. Yoder, president. Mr. Yoder was formerly president of the Automatic Oil Burner & Refrigerator Co.

A complete line of electric refrigeration equipment including units for the home, apartment house and for commercial purposes is shown at the Norge display room, 524 Virginia St.

Detroit Kelvinator Meeting First of Series of Regional Conventions

A banquet at the Hotel Statler, Detroit, closed this Kelvinator dealer meeting on March 22, the first of a series of 17 being held throughout the country

Credit? Yes, But No Long Drawn Out Extraction Process, Says Colorado Springs Hardware Man

By Willis Parker

THE Lowell-Merservey Hardware Co. of Colorado Springs, Colo., sells electric refrigerators but not on the installment plan. Marvelous! T. A. Merservey claims that it is not necessary to offer a time-payment plan to dispose of them. Credit? Yes, but no long drawn out process of extracting the money.

The terms, according to Mr. Merservey, are at least one-half down and the balance within twelve months, as the customer desires to pay, without the requirement of a contract or mortgage or any other variety of legal document. Only those who have good credit ratings, of course, are permitted to make purchases on their regular charge accounts. Thus far every sale but one has been completely paid for within 60 days of the date of purchase. Considering the number of machines sold in the two years that the firm has handled them, it is a mighty good record.

Sales have been in sufficient volume to require the training of an employee to service them. All of the salesmen on the floor are trained to sell refrigerators, but most customers are handled by either Mr. Merservey or Mr. Lowell.

One of Hardwareman's Best Bets, If—

"Electric refrigeration is one of the hardwareman's best bets," said Mr. Merservey, with enthusiasm. "There is nothing he can handle that will increase his sales volume so rapidly and raise the percentage of profit—IF he stays away from installment selling and the problems incident to financing the paper. When he undertakes installment selling he increases the cost of making the sales because it takes another set of books and another bookkeeper's time to handle the accounting. This means decreased profits. If we lose a customer once in a while because we do not sell on the installment plan, we are still ahead of the game since we haven't increased our over-head expense by providing means of handling the sale on terms.

50 Per Cent Down Payment Takes Out the Risk

"There are plenty of prospects—at least there are in Colorado Springs—who are able to make a down payment of 50 per cent and clean up the balance in two, four or six months. While the 50 per cent down payment does not cover the cost of the machine to us, it is sufficient for us to take a risk that the customer will pay out. The crooked installment 'fan' looks askance at a 50 per cent down payment, hence we may feel assured that the man who pays half down means business.

Good Service Man Essential

"We have a well trained service man so that we are able to give our customers the service they require and when they want it. We took one of our own men, sent him to the branch office and had him learn the mechanical end of the business as thoroughly as possible. He is not a liability when he has no service calls to attend to, for, when he is not working on refrigerators, he is in the marking and shipping rooms with other duties. A good service man is absolutely essential. This is not in the anticipation that the machines you sell are so poorly constructed that he is going to be in constant demand, but because electric refrigeration is not fully understood by all mechanics, and, when there is need of service, the customer must be given the best attention possible.

Constructing New Display Section

"We think so well of electric refrigeration that we are spending several hundred dollars to construct in one corner of our store, an elegant refrigeration department. To give it distinction and to increase its appearance of a separate department, we are constructing over it, a tiled roof with bungalow effects. In the booth, or department, we will have five models of the line. This will enable us to take care of any type of customer.

"Thus far we have used only our mailing list as a prospect list. We know these customers and what sort of credit they enjoy. But this summer we expect to increase our promotion work by augmenting the sales letters with personal calls by an outside salesman."

Your Best Months Are Here!

Remember—these are the best months for the sale of electric refrigeration. If you don't get your share of the business now it's your own fault. This is the season of the greatest acceptance and your organization should be in the field now and active! If you're behind your quota thus far April and May are the months to take up the slack.—F. B. Connelly Co., sales and service bulletin, Billings, Montana.

"Finishing" the Refrigerator

By P. T. Sealey, Porcelain Enamel & Manufacturing Co.

REFRIGERATION, as we all know, is at the bottom of all modern progress and development, for without refrigeration we could not preserve foods, and without preservation of foods the great concentration of people in our modern large cities would be impossible. This applies not only to refrigeration on a large scale, such as may be found in modern cold storage plants, but also to the preservation of food in the home, for the day when the American citizen and, in a somewhat lesser degree, the citizens of the rest of the civilied world, can live on vegetables pulled from their own garden and on meats salted or smoked in their own back yard, has passed and has passed forever.

The home refrigerator must, above all things, be sanitary. That is, it must be clean in a surgical sense so that the germ which causes decay shall have no foothold to produce the toxins which lead to ptomaine poisons and kindred ills. In order to be clean, or rather to be cleanable, the surfaces, both interior and exterior, should have certain qualities, and among these qualities are, of course, permanence of finish, imperviousness to moisture, smoothness of texture and resistance to the chemical action of ordinary soaps and cleansers, as well as to the acids found in fruits and berries.

So far no finish has been discovered which combines all these qualities with economy of production as well as porcelain enamel. Porcelain enamel consists of a boro-silicate glass, a varying composition which fuses at a point considerably below that which will cause warping of the iron, and when fused has a property of adhering closely to the iron so that when it is cool it is an integral part of the iron itself.

The enamel itself, or glass as it is commonly called in the industry (for it is a true glass), is made up of a combination of materials among the most prominent of which are borax, feldspar, quartz, sodash, cyrolite, fluorspar, sodium nitrate and zinc oxide, mixed in proper proportion and fused or smelted at a temperature approximating 2100 degrees Fahrenheit. It is not a simple melting-together process, for the smelting operation must be stopped at a certain point before the chemical reactions are complete in order that the proper characteristics may be obtained. In order to be sure that all change has stopped at this point, the melted enamel is run from the smelter into a receptacle containing cold water. The sudden chilling also results in the forming of small granules or frit, which leaves the glass in a most suitable condition for the operation of milling. It is in the form of glass, or frit, that most manufacturers of refrigerators obtain their enamel, and the balance of the process is carried on in their own plant.

The next operation, commonly called milling or grinding, consists in mixing glass or frit with water and clay and grinding it to a very fine consistency. The clay serves to keep fine particles of enamel in suspension in the water through its coloidal properties. In the case of white or colored enamel, various compounds are added to secure the color opacity required.

In the case of white, for example, tin oxide is almost universally used, although there are some substitutes on the market which are cheaper than the tin oxide and give comparable results. In the case of sheet iron enameling, it is almost universal practice to have two types of enamels, known as "ground" and "cover" coats respectively. The ground coat contains as its most expensive and outstanding ingredient, cobalt oxide which gives it the property of adhering to the metal and imparts the characteristic blue color of all ground coats. It is possible to make a ground coat without cobalt, which is white or gray in color and eliminates the necessity for one of the following cover coats, but so far the action of this light colored ground coat has been so irregular that they have not been adopted for production in refrigerator plants, although in the kitchen ware industry where inspection requirements are not so rigid, white ground coats are very successfully used.

The ground coat is usually applied by dipping the ware, which covers both sides and protects the metal adequately against rust. After dipping, the ground coat is fused in the furnace at temperatures approximating 1600 degrees Fahrenheit, and the succeeding white coats are then sprayed by means of a spray gun and burned at temperatures progressively about 50 degrees lower than the preceding coat.

We in the porcelain enameling industry must acknowledge that we are very far behind the trend of modern development, in that we know little or nothing of the chemical properties or practically nothing of the physical properties of the finished enamel, so that it is a generally accepted statement that porcelain enamel is at present an art and not a science.

The several large companies in the business of producing enamel frits, as well as the Bureau of Standards and some of the larger industries, are carrying on research work to clear up these hidden points, and in a few years expect to be as far ahead on the question of the chemistry of the operation as the steel manufacturer of today is above that of the old rule-of-thumb of the old operator of thirty years ago.

Unfortunately, however, porcelain enameling is as old as human civilization and pieces of typical enamel work have come to us from the ancient Chaldean ruins, and in any collection of relics from ancient Egypt you will find many beautiful pieces of this type of art. As a result, we have an enormous burden of tradition to bear and it is only within the last decade that the larger universities have started to train men in the technical phases of the business.

When the first great rush of the demand for porcelain enamel made itself apparent five or six years ago, the universal demand was for white, especially for refrigerators and kitchen ware, as white was always associated in our minds with cleanliness. In the last year or two, progressive housewives have begun to feel that they want their kitchens to look more like integral parts of the home or less like a hospital ward, and have begun to realize that even such matter-of-fact operations as peeling potatoes and washing dishes can be done amid beautiful surroundings. The present furor for colors in refrigerators and commonplace kitchen ware, has been the result. The demand for the present season seems to have crystallized on light blues, reds, and greens, and 1928 production of these colors, especially in the stove industry, has shown a great increase.

Naturally, the refrigerator manufacturers have resisted the call for colors as it increases the number of model sets and the overhead expense of manufacture, but it is probable that eventually they will fall in line. It is possible by the addition of suitable coloring oxides to produce any shade of color in enamel, and this is not an unmixed evil, for it is easier to produce a perfect piece of ware, or rather an acceptable piece, in color, than it is in white.

The improvement in quality in recent years has been remarkable. Ten years ago, or even five years ago, a piece of enameled ware had to be handled very much as a sheet of window glass and was as easily fractured or nicked. Modern enamels, however, when sprayed onto a piece of metal 8 inches or 10 inches long, can be bent on a 5-inch radius and straightened out without showing a fracture, and even in cases where they are cracked will not jump off in patches but will still adhere closely to the metal.

This makes it possible to enamel large refrigerator sheets, such as front and end panels, and spring them on to the assembly without fracturing, which, of course, reduces the total cost of enameling very considerably over that of previous years when frequently as much as 15 per cent of these pieces would have to be rejected.

Another improvement is in the case of resistance to the weak acids encountered in the household, notably citric, malic, and tartaric acids, which are in various fruits. The necessity for having enamel fused at a lower temperature requires the introduction of substances which are not as resistant to acid as the silica composition of ordinary glass, and in the older type of enamels, the cut surface of a lemon would etch the surface within an hour or so, so as to leave a very perceptible blur, and a dish of berries spilled on the interior of a refrigerator would leave a permanent stain.

The modern enamel of the ordinary type is far better in this respect, and special enamels have been developed which are similar to stainless steel in that the resistance to this type of corrosion is very high, although they are not as stainless as the name indicates. Another type of enamels known as "acid resisting" has been developed, which are purely acid-resisting, but these as a rule are fused at such a high temperature that their application to refrigerator work is inadvisable.

350 NEW YORK G. E. SALESMEN INVADE SCHENECTADY PLANT

Trip Made in Special Train of Twelve Coaches

Rex Cole, accompanied by 350 salesmen of Rex Cole, Inc., distributor of General Electric refrigerators in greater New York and adjacent territory, arrived in Schenectady, N. Y., at 9:45 A. M. on March 16, and invaded the refrigeration department of the General Electric works. The salesmen made the trip in a special train of 12 cars included in which were an observation car, a club car and three dining cars.

On the platform above, third from the right—Rex Cole, host of the party. Below—His guests in Schenectady.

The train left the Grand Central station, New York City, at 6 A. M. and breakfast was served in the dining car in three different shifts so that the party was ready for their trip through the plant as soon as they arrived in Schenectady.

The trip was not only an educational opportunity, but a reward as well, for every man who made the journey had qualified by selling three or more refrigerators between February 15 and March 15.

D. F. Secord, headed the general staff division; E. H. Campbell, lead the branch store sales division; J. J. Massimi, the department house division; O. A. Card, the western retail division, including Manhattan, the Bronx, Staten Island and part of Westchester County; M. F. Bennett, the eastern division, made up of Kings and Queens counties, and M. E. Pipkin, the suburban dealer division, including all the suburban territory handled by the Rex Cole organization.

Each division subdivided itself under sales directors and dealers. A tour manager and staff had charge of the whole party and with them were sergeants-at-arms assigned to each car. A tour reporter and staff including stenographers, covered all news occurring enroute and a General Electric photographer with motion picture camera made pictorial records of the trip.

The General Electric band met the party at the station and led them to the entrance of the plant where they were met by fifty guides who conducted them through the various factories.

At 1:15 the party assembled at the works restaurant where a cafeteria luncheon was served and where addresses of welcome were delivered by C. E. Eveleth, vice-president of manufacturing, and Burton L. Delack, works manager. From 2:15 to 4:15 the visitors were again conducted through other buildings where they observed the building of compressors.

Rex Cole, and his party, assembled at the main gate at 4:15 and marched to Edison Club hall, where short talks were given by T. K. Quinn, manager of the refrigeration department, Cleveland; A. R. Stevenson, Jr.; E. O. Spicer, superintendent of Schenectady refrigeration department, and W. L. Merrill.

The return journey began at 5:45. Three cash prizes were offered by Rex Cole to those who cared to write essays reporting on the factory inspection tour. A list of those who made the trip follows:

Rex Cole, J. J. Massimi, O. D. Street, W. Measday, Jr., H. J. Francis, W. J. Edgar, A. H. Zundel A. D. Babson, E. R. Meserve, Miss Betty Gordon, George Kastner, C. J. Sheridan.

E. H. Campbell, P. H. Hichborn, L. K. Almy, K. W. Richards, George E. Boynton, William Fisher, W. H. Squires.

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Mark Haines, E. A. Rogers, Edward Niebling, G. Friedlander, M. Waldorf, Charles Coron.

C. Collins, J. S. Baker, Robert Nelson, W. H. Dippel.

R. Stevenson, O. A. Card, M. F. Bennett, M. E. Pipkin, F. T. Harvey, F. D. Courneen, M. B. Wilson.

Correction

On page 15 of the February 29 issue of ELECTRIC REFRIGERATION NEWS, a photograph of the interior of the new Hagerstown, Md., municipal market appeared with a caption underneath calling attention to a battery of Frigidaire operated Oreole display cases.

A letter has been received from A. H. Warne, manager of Kelvinator-Bohman, 1600 Jonathan St., Hagerstown, Md., which reads in part as follows:

"In this battery of Oreole display cases, there are only two that are equipped with electric refrigeration and both of them are equipped with Kelvinator. There is not a case in this building equipped with Frigidaire."

"I subscribed to your paper at the time of its second or third issue, and have read every issue since. I think that it gives a complete and very valuable picture of the trends in this fast moving industry."—J. J. Donovan, General Electric Co., Electric Refrigeration Dept., Hanna Bldg., Cleveland, Ohio.

Texas Copeland Dealers Attend Meeting at Dallas

Salesmen, dealers and distributors of Copeland refrigerators in the Dallas, Texas district recently held their first annual convention in that city. The meeting was under the direction of V. E. Vining of the Copeland Sales Co., of Detroit. The district representatives were shown the features of the new Copeland models.

Attending the convention were representatives from Sherman, Abilene, Fort Worth, Mineral Wells, Eastland, Brownwood, San Antonio, El Paso, McAllen and Houston.

"Copeland Hour," a radio broadcast feature developed by the Phil H. Pierce Company, Inc., distributors in northeast Texas, has met with favorable results and Copeland factory officials have become interested in the programs, according to local representatives.

High Pressure Methods are Not So Good in the Small Town

By Willis Parker

WHAT opportunity has the small-town electrical dealer to sell electric refrigerators? This was the question I put to Ray Williams, manager of an electrical store in Halstead, Kansas, a little town of 1200 people situated between three large towns and not more than thirty miles distant from any one of the three.

"Just as much chance as in the big cities," he replied, "but he will exhaust his opportunities sooner and must use sales methods entirely different from those practiced in the city. When I speak of exhausting his opportunities sooner, I refer to the usual stability of the small town, where the population does not fluctuate materially from year to year. When he has sold all of the residents of the community, he's done for a while, unless the town grows.

"The population in a large city changes rapidly. New families are coming in and old ones are going out. There always will be prospects upon which the city salesmen may work.

"But with us it's different. We see the same faces day after day. We know most of the men by their first names. Sales of electrical merchandise are made largely upon what I call low-pressure salesmanship. You must devote this year to selling next year's refrigerators.

"We've tried high-pressure salesmanship and it's worse than no salesmanship at all. The prospects figuratively crawl into their holes and pull the holes in after them when you bring forth a bunch of modern sales psychology and carry a dotted line in your pocket. Our people want to buy—not be sold—and they think when you try high-pressure salesmanship on them that you are trying to unload something on them. It works that way with other electrical appliances as well as with electric refrigerators.

"The first thing to do is to arouse curiosity. When we got our first electric refrigerator for demonstration purposes, we took occasion to suggest to all of the residents we met on the street and elsewhere that they drop into the shop and see the 'contraption.'

"'Got something new up at the shop, Jim. You ought to drop in and look it over,' was the usual manner of presenting the idea, or planting the seed.

"Not casting any reflections upon the people of small communities, it is generally supposed that they have more time for visiting than do the people in large towns. To a certain extent this is true, and if you present something that arouses curiosity, they usually have time to drop in and examine it—not just a casual examination, either. And they want to know all about it, how it works, and why. The result is that your sales talk, which is chuck full of points on economy, correct food preservation thoughts, pride of ownership, etc., is accurately assimilated. It is easy to arouse the desire to possess.

"But it takes longer to arouse buying instinct. The small-town residents desire more time to think things over. You must keep after them with casual references to the practicability of an electric refrigerator every time you meet them. You may come out bluntly with the question, 'When are you going to buy that refrigerator, Jim?' or 'I'll be selling you a refrigerator next week, John'; anything to keep the thought uppermost in their minds for short periods of time, at least. Then, some day, the prospect will walk into the office, or maybe telephone, and ask that you send a refrigerator out to the house. The prospect thinks in his own mind that he bought the article and that no one sold it to him. In other words, he feels that he thought it all out himself and doesn't take into consideration the many times you have suggested to him that he join the 'happy throng' of modern refrigerator users.

"Pride of ownership is a very important point to consider in one's sales arguments. It is far more important in the small community than in the large city, for in the small town everyone knows everybody else and what each one is doing. If Mrs. Smith has an electric refrigerator, every woman in the community knows about it shortly and wants one herself.

"Frequently I have arranged with users to invite certain prospects over to dinner and serve them ice cream or frozen desserts made in the refrigerator. Then, I see the prospect and tell them that the next time they are at So-and-So's for dinner they will have a frozen dessert made in the electric refrigerator and to take time to visit the kitchen and see how the machine works. That's an admirable plan, for it drives home the pride of ownership sales argument inasmuch as the hostess is most likely to be exceptionally enthusiastic over her refrigerator and the prospect will be duly impressed."

Mr. Williams is in charge of the Halstead branch of the Kansas Gas and Electric Company, head offices in Wichita, Kansas. In connection with meter reading and general supervision of the service, he has occasion to visit the homes quite frequently on business. While he is in the home, he may mention electric refrigeration, and his words are listened to attentively because the housewives feel that he didn't come to purposely discuss refrigeration, and he starts many a prospect along the pathway to buying, merely by mentioning the refrigerator when on other business missions.

FRIGIDAIRE, DELCO-LIGHT SERVICE MEN HOLD 4-DAY SESSION

A four day meeting of Frigidaire and Delco-Light service managers, representing a field organization of several thousand men was held at Dayton, April 10 to 13.

Approximately 115 Frigidaire representatives were present at the opening of the convention on Tuesday morning, April 10, at the Engineer's Club. A short inspirational talk was followed by a half day trip through the two Frigidaire plants.

Matters relating to the general improvement of service were discussed at a business session held Wednesday morning at the Engineer's Club. Soda fountain installations, water coolers and a new air-cooled compressor recently added to the Frigidaire line were subjects for discussion. The afternoon was spent in the engineering department.

That part of the convention relating to Frigidaire was brought to a close with a banquet Wednesday night at the Miami Hotel. Most of the men in attendance were also in charge of Delco-Light installations in their respective territories and spent Thursday and Friday in consideration of this phase of their business.

California Distributor Goes In For Colorful Setting

One of the unusual electric refrigerator show roows of the country is that of the George Belsey Co., 510 Santa Monica Blvd., Santa Monica, Calif. The display rooms are said to be extremely attractive with their cool green oil cloth drapes, edged in orange and yellow, the bright French rugs over a black tile floor, the cosy reed furniture with its gay cretonne pillows and the imposing battery of porcelain General Electric refrigerators.

Salesmen on the display floor wear white flannel trousers and blue coats, to harmonize with the general color effect.

Minnesota and Wisconsin G. E. Dealers Convene at Duluth

Sixty salesmen and dealers of the electric refrigeration department of the General Electric Co., in northern Minnesota and Wisconsin attended a sales conference at the Spaulding Hotel, Duluth, Minn., on March 22, at which A. S. Dunning, Inc., Duluth, Minn., General Electric distributor was host.

Gordon Muir Joins Chicago Advertising Agency

Gordon Muir, former advertising manager for the Nizer Division for what is now Kelvinator Corp., has recently joined the Van Allen Advertising Agency in Chicago, Ill., as executive vice-president.

Snow Queen Units In Production

The Hvid Ice Machine Corp., First National Bank Bldg., Chicago, Ill., manufacturers of Snow Queen electric refrigerators, announce that they are now in production and will be ready to make deliveries about the 15th of April.

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY

BUSINESS NEWS PUBLISHING CO.

554 Maccabees Building, Woodward Avenue and Putnam Street
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F. M. COCKRELL, *Editor and Publisher* H. A. DELASHMUTT, *Advertising Manager*
HUGH J. MOORE, *Assistant Editor* BEULAH WERTZ, *Circulation Manager*

APRIL 11, 1928

Comparative Tests

An inquiry from a hardware dealer in Pennsylvania, brings up a subject regarding which there is much misunderstanding and confusion of thought. The letter follows:

> "We understand that last year a test had been made on the various electrical refrigerators on the market.
>
> "We have heard so many reports as to the result of these tests and as to the relative standing of the different machines that we were wondering if you could supply us with information regarding the rating applying on the different machines as a result of these tests."

It is true that many tests have been made for the purpose of determining the relative efficiency and other operating characteristics of the various makes and types of machines on the market. Some tests of this kind have been made by independent laboratories and engineering service organizations having good facilities for the purpose and with a reputation for reliability. Certain popular magazines maintain laboratories for the testing of household appliances and offer "approval" to those which meet their requirements. (Manufacturers have expressed the opinion that an advertising contract is the principal requirement.) Most of the manufacturers maintain laboratories of their own in which they are constantly testing their own products and those of competitors. Some of the larger public utility companies maintain elaborate testing departments for their own purposes. Anyone may, if he desires, make a comparative test.

Engineering minds are constantly searching for facts, seeking to uncover new truths, endeavoring to find a better method of accomplishing a desired result. A test report is to an engineer what a balance sheet is to a banker. In either case the value of the figures depends entirely upon the ability to interpret their meaning. Important considerations in the interpretation of the data include the manner in which the figures were determined and the reliability of the individual or organization which collected the data. The old adage that "figures won't lie, but liars will figure," emphasizes the utter worthlessness of any report, either engineering or financial, which has eminated from a prejudiced source.

It is obvious that any test made by a manufacturer for the purpose of comparing his own product with that of competitors cannot be considered unprejudiced when used as a sales aid. Large corporations which conduct tests on their own account, or hire others to do so for them, quite naturally consider the results as their own private property. They would only invite unnecessary trouble for themselves by making such data public. It is a commonplace among laboratory engineers that only one company is ever satisfied with the results of a comparative test, namely the one which tops the list. The others usually insist that something is wrong with the laboratory. The "old model" alibi is also a convenient excuse. An executive of a well known testing laboratory asserts that they have never yet had the privilege of testing the *latest* model.

Electrical appliances are tested by the Underwriters Laboratories to determine fire and casualty hazards, but only the manufacturer who supplies the equipment (and who pays for the test) is given a detailed report of the result. Apparatus which is approved is so reported, but no report is made regarding products which fail of approval. This activity is carried on by the insurance companies and the findings are reflected in insurance rates. Standards set up by the underwriters in the form of "codes" which are, in some communities, written into local ordinances, are presumed to represent *minimum* standards. There has been much conflict of opinion in the electrical industry as to the net effect of this inspection system of the Underwriters. It is claimed that the minimum or "good enough" standard is an obstacle to the marketing of high quality products. This complaint is obviously due to the common practice of salesmen of pointing to the Underwriters' Label as if it were the congressional medal of honor, whereas it only means "it won't start a fire and it won't kill anybody."

From the viewpoint of the ultimate user, laboratory tests have comparatively little value. The operation of an electric refrigerator in a New York laboratory gives little indication of the probable performance of another machine bearing the same trade name, probably a different model, installed in a different make of cabinet by an inexperienced dealer in Texas, connected to the lines of a municipal light plant having a fluctuating voltage and used by a colored mammy who discovers that she can cool the kitchen by leaving the refrigerator doors open.

Those who earnestly desire authentic information and whose interest is of sufficient proportions to justify the effort, will secure the desired information more quickly and surely by employing a competent and neutral organization to find out what ever they want to find out rather than to depend upon mysterious and sub-rosa reports. This is suggested in the absence of any philanthropic institution, endowed by a deceased millionaire, for the purpose of determining the *one best product* among all those offered by competitors. Incidentally, we wonder how long such an institution would last in the face of injunctions, damage suits, prosecution for restraint of trade, etc.

After all, the best test of a product is its continued satisfactory performance over a reasonable period of time in the hands of actual customers. The confidence which a manufacturer holds that his product will give satisfaction to a large number of users is reflected in the character and continuity of his advertising and other selling efforts. The American public has become quite adept in judging these indications of the manufacturer's confidence in his own product. The reputation of the manufacturer and that of his local dealer is more often than not a safe indication of the reliability of the product. These factors are certainly far more important to the average buyer than one or two per cent additional efficiency indicated by a test report on a laboratory model.

NUMBER OF FARMS HAVING ELECTRIC SERVICE

There are no statistics available giving the total number of farms in the United States having electric light and power service. However, the results of a survey conducted by the Rural Electric Service Committee of the National Electric Light Association show 227,442 farms in 27 states having service from high lines on January 1, 1927. This was an increase of 86 per cent for the same 27 states over January 1, 1924. On this basis it is estimated that between 300,000 and 350,000 farms in the United States were receiving electric service from distribution line on January 1, 1927.

It is probable that the number of farms enjoying service from individual plants is as large.

DETROIT FREE PRESS BUILDS SUPPLEMENT FROM NEWS COLUMNS

The third annual, electric refrigeration and oil burner supplement to the Detroit Free Press, of April 4 carries the following articles which were either used in full or extracted from the form in which they had previously appeared in ELECTRIC REFRIGERATION NEWS and run *without credit* to the NEWS:

"Ice Cream"—A recipe for making ice cream in the electric refrigerator. This appeared on page 1 of the March 14 issue of the NEWS under the heading "Real Ice Cream."

"Refrigerator Design Improvements Noted"—this article was taken from page 11 of the January 4 issue of the NEWS and introduced a number of articles appearing under the head of "Achievements of Manufacturers."

"Ice Cars Built for Palestine"—a news item which appeared on page 4 of the February 29 issue of the NEWS under the heading, "British Firm Builds New Refrigerator Cars for Palestine Railway."

Two short news items, one headed "Detroiter is Elected Kelvinator Director" and the other "On the Saratoga," were taken from the February 29 issue.

"Machines Get Severe Tests"—taken from the February 1 issue, page 24, where it appeared under the head "Institute Subject Machines to Severe Tests Before Okay."

"Ice at Mooseheart"—is a news item which appeared on page 3 of the December 21 issue.

"Ships Fruit Overseas"—a news item taken from page 5 of the December 7, 1927 issue where it appeared under the heading "Refrigerated Citrus Cargo Goes from Jacksonville to Liverpool."

"Super-Colds Attractive"—a description of colored market display cases appeared in the February 29 issue of page 11 under the heading "Super-Cold Case Attractive with Color Tile Trimming."

"Arizona Firm Offers Prizes Essays"—a news item used in the March 14 issue.

"Precision Marks Work on Home Refrigerator"—a description of operation in the Copeland factory used in the January 4 issue on page 14 where it was run under the headline "High Life in the Process of Making an Electric Refrigerator."

"New Colorful Kitchen Era Hailed by Week" an extract from a news item in the February 29 issue which was headed "Neglected Kitchen Week Sponsored by Georgia Power Co."

"Half Billion Market for Electric Refrigeration"—a front page story in the February 29 issue with the headline "Retail Food Stores Offer $500,000,000 Market for Electrical Refrigeration."

"Farmers Buy Milk Coolers"—a feature article headed "Wisconsin Farms are Good Market for Milk Coolers" on page 4 of the February 29 issue.

"Icebound Ship Crew is Served by Frigidaire"—a news item headed "Frigidaire Sales on Bowdoin Exploration Ship" in the February 29 issue, page 9.

"Cold Storage advocated by Florida and Canada"—which appeared in the February 29 issue on page 9 under the heading "Refrigeration Laws in Canada and Florida Compared."

"Home Town Note"—a humorous news item which appeared on page 8 of the December 21 issue.

In addition to these articles for which no credit was given, one article headed "Crows on Ice" taken from page 6 of the December 21 issue had the following credit line: "With Apologies to Moran & Mack and a curtsey to the ELECTRIC REFRIGERATION NEWS.

Name of Kelvinator Corporation Officially Adopted

Effective March 15, 1928, the name of the Electric Refrigeration Corporation was officially changed to Kelvinator Corporation. Notices have been issued to stockholders requesting the return of the stock certificates to the transfer agents, The Seaboard National Bank of the City of New York, and the Detroit Trust Co., in exchange for new certificates bearing the name of Kelvinator Corporation.

Penn.-Ohio Power & Light Co. Figures Show Refrigeration Sales Doubled in its Territory in 1927

The combined sales of both domestic and commercial refrigeration units by dealers in the territories of the Pennsylvania-Ohio Power & Light Co., with headquarters at Youngstown, Ohio, showed an increase of 889 sales in 1927 over those made in 1926 by these same dealers. According to F. E. Miller, manager of lighting sales, "With the exception of three of our smaller districts, we did not merchandise electric refrigeration direct during the years 1926 and 1927. We did, however, keep a close check on refrigeration sales by the various dealers in our territory during this period. This information was secured monthly and we are submitting herewith detailed reports by districts for these two years.

"In order to give you a check on the saturation I am submitting total residential and commercial lighting consumers being served in the various districts as of December 31, 1927. We are co-operating in every possible way through the various dealers. Copy of advertisements carried in various newspapers are enclosed. Displays and demonstrations were maintained in the lobbies of our various district offices throughout the summer months and as much space as possible alloted to these dealers for display purposes throughout the year."

Reproduced here is one of a series of advertisements run over the name of the Pennsylvania Ohio Power & Light Co., and designed to "sell the idea" of electric refrigeration. It will be noted that preference is given to no particular make but that the various makes are listed in a box together with the name of the local representative.

A copy of the full page advertisement which appeared in the *Newcastle News* last April showed the advertisement of the Power Company occupying space in a central position and "selling the idea" while the individual dealers used smaller space bordering around the Power Company copy.

Electric Refrigeration Report Year—1926

District	Domestic	Comm'l.	Totals
Youngstown	452	75	527
New Castle	68	33	101
Sharon	122	32	154
Salem	19	0	19
Greenville	12	23	35
Lisbon	5	3	8
Total	678	166	844
Prev. to 1926	665	74	739
Total in service to date	1,343	240	1,583

Electric Refrigeration Report Year—1927

District	Domestic	Comm'l.	Totals
Youngstown	807	128	935
New Castle	281	159	440
Sharon	190	45	235
Salem	33	19	52
Greenville	47	16	63
Lisbon	7	1	8
Total	1,365	368	1,733
Total sales Year 1926	678	166	844
Prev. to 1926	665	74	739
Total in service to date	2,708	608	3,316

Residential & Commercial Lighting Consumers As of December 31, 1927

District	Residential Lighting	Commercial Lighting
Youngstown	42,504	5,486
Salem	4,031	578
Lisbon	830	212
Andover-Kinsman	525	136
Sharon	9,094	1,481
New Castle	13,075	1,863
Greenville	3,683	690
Ellwood	101	9
Total	73,843	10,455

A full page newspaper advertisement of the Penn.-Ohio Pr. & Lt. Co.

Common Farm Operations Where Electricity Can Be Used Economically

Fom the Electrical Feature Service Issued by The Society for Electrical Development, Inc.

Operation	Average Connected Load	Energy Consumed
Lighting	500 Watts	18 kw. hr. per mo.
Range	7 kw.	125 kw. hr. per mo.
Water Pump (household)	½ hp.	16 kw. hr. per mo.
Refrigeration (household)	¼ hp.	50 kw. hr. per mo.
Milking	2¼ hp.	2½ kw. hr. per cow per mo.
Separating cream	¼ hp.	1.1 kw. per 1000 lb. milk
Threshing	7½ hp.	26 kw. hr. per 100 bu.
Feed grinding	7½ hp.	6 kw. hr. per ton
Water pump (live stock)	1 hp.	.2 kw. hr. per 100 gal.
Milk cooling, storing and making ice	½ hp.	7 kw. hr. per cow per mo.
Filling silo	15 hp.	2.4 kw. hr. per ton
Lighting dairy	500 watts	20 kw. hr. per mo.
Irrigation (10 acres, ave. 6 hr. per day, during season)	3 hp.	403 kw. hr. per mo.
Water heater and sterilizer for dairy utensils (2 hours per day, all year)	3.5 to 5 kw.	210 to 400 kw. hr. per mo.
Incubator (600-egg size, 3 weeks per hatch)	290 watts	60 kw. hr. per hatch
Brooder (500 chick size, 6 weeks per brood)	800 watts	270 kw. hr. per brood
Grinding, mixing, chopping and elevating feed for 2,500-hen poultry farm (2 hr. per day, all year)	5 hp.	224 kw. hr. per mo.
Lighting poultry house (2,500 hens, 3 hr. per day for 6 mo. in year)	1875 watts	169 kw. hr. per mo.
Candling eggs	100 watts	
Electrically heated hotbed (3x6 ft.)	100 watts	72 kw. hr. per mo.

To Direct Haven Advertising

The Haven Mfg. Co., of Milwaukee, manufacturers of electric refrigeration units, has placed its advertising account with Klau-Van Pietersom-Dunlap-Younggreen, Inc., Milwaukee.

The Woman Pays

"The woman pays and pays and pays," screamed the feminist orator. "Good," remarked a wan voice from the rear. "That's three installments settled."—*Detroit News.*

SOUTHEASTERN N. E. L. A. MEETING AT MIAMI BEACH

List of Speakers Includes Many Well Known Names

The sixteenth convention of the Southeastern Division of the National Electric Light Association is meeting April 11 to 14 at the Roney Plaza Casino, Miami Beach, Florida.

The address of welcome was given at 10 o'clock on Wednesday morning by Hon. J. M. Lummus, Jr., mayor of Miami Beach. T. W. Martin, president of the Southeastern Power & Light Co., responded on behalf of those attending the convention. The business section of the convention was opened with the president's address by Joe H. Gill, vice-president and general manager of the Florida Power & Light Co.

The four day session is filled with meetings of individual committees and sections, and general business sessions, these being interspersed with an unusual entertainment program.

Among the headliners who are addressing the assembled delegates, the following names are noted: H. T. Sands, president, N. E. L. A.; Thos. W. Martin, president, Southeastern Power & Light Co.; Harrison Jones, executive vice-president, Coca Cola Co.; John M. Hager, U. S. Department of Commerce; John F. Owens, vice-president, Oklahoma Gas & Electric Co.; C. E. Greenwood, commercial director, N. E. L. A.; Phillips B. Shaw, vice-president, National Electric Power Co.; Paul S. Clapp, managing director, N. E. L. A.; Miss Eloise Davison, Home Economics Advisor, N. E. L. A.; Dr. Gus W. Dyer, Vanderbilt University; Dr. C. O. Ruggles, Ohio State University; E. A. Davis, Middle West Utilities Co.

MONTANA-WYOMING G. E. DEALERS ATTEND MEETING AT BILLINGS

General Electric refrigerator dealers and salesmen from Montana and northern Wyoming met in Billings, Mont., on Monday, March 26, in response to an invitation sent out by the F. B. Connelly Co., distributors of General Electric refrigerators. The convention was held in the Northern Hotel.

Visitors registered in the morning and spent the most of the forenoon in an informal discussion of the various models of General Electric refrigerators displayed. Kenneth A. Connelly of the F. B. Connelly Co., presided over the afternoon session, the first address of which was given by W. J. Daily of the Cleveland General Electric Co. offices, on the subject "The G. E. Icing Unit."

Following the talk by Mr. Daily, H. R. Linebaugh, retail store manager for the F. B. Connelly Co., spoke on "Store Set Up." Advertising was the subject of a talk by W. H. McDonald, advertising manager of the company. Mrs. Hazel Linebaugh, home service director of the Montana-Dakota Power Co., talked on "The New Servant In the Home." A. C. Mayer, manager of the merchandising service division of the General Electric Co., spoke on "Organization." The afternoon session was closed with a talk by Mr. Connelly, chairman.

A six-thirty dinner was served in the tea room of the Northern Hotel at which W. W. Gail, of Billings, was toastmaster. Ben C. Ritter, of the Denver office of the General Electric Co., spoke briefly on the early history of the present General Electric refrigerator.

Frank Coleman, Billings manager of the Montana Power Co., spoke on the subject of market possibilities and told of the enormous advantage which the present day national advertising campaign gives the dealer in marketing his products. Among other facts, he stated that in Billings at least 70 per cent of the homes are equipped with electric washing machines.

A. C. Mayer of the Cleveland office made the keynote address of the evening, taking as his subject "Building for the Future—Today."

In closing the dinner F. B. Connelly, president of the company, thanked the visiting dealers for attending the meeting, some of whom came nearly 500 miles.

Writes on Food Deterioration

The inefficiency of the ordinary ice box and the rapid deterioration of food due to improper refrigeration are considered in an article entitled "Dangers that Lurk in the Family Ice Box," by Frederick Damrau, M. D., in the April issue of Popular Science Monthly.

Gets Increase In Territory

The territory of A. T. Southard, Kelvinator representative in Peekskill, N. Y., has been enlarged so that it now includes all of northern Westchester and Putnam counties. A recent survey showed that over 225 Kelvinators are now in use in this territory covered by Mr. Southard.

Balsam-Wool, a Description of Its Manufacture and Applications

Treatment of Wood Fiber Produces Insulation Suitable for Many Uses

BALSAM wool as its name implies, is a wool-like blanket made of wood, and the process by which this is accomplished is interesting. The natural resistance of wood to the passage of heat, due to it cellular structure, has been greatly multiplied in this insulating material, which is manufactured from the fibers of northern coniferous woods. The process is somewhat similar to that employed in pulp making, as the wood is first reduced by mechanical means and then chemically treated so the wood fibers are separated from one another.

The individual fibers are fine, hair-like, hollow tubes, and at this stage are saturated with chemicals that render them non-inflammable and proof against decay. These fibers are handled by air and felted into a fleecy mat bound together with cement. An important feature of this mat is that its fibers extend in all three cubical dimensions, with the result that the blanket is remarkably light in weight and contains millions of dead-air cells. This arrangement of the fibers, the extremely light weight of the mat, and the cement which binds it together, make it self-supporting and prevent its sifting or shaking down.

To increase the mechanical strength of the fibrous blanket, a layer of waterproofed kraft paper is cemented to each side of the blanket with asphalt. This method of applying the liner does away with stitching and leaves the surface of the material impervious to water and air.

Balsam-wool weighs less than five pounds per cubic foot, and in the finished product over 94 per cent of the volume of the blanket is confined air.

Various types of this material have been perfected for different uses. For cold storage and building insulation it is surfaced with a smooth, waterproofed, kraft paper. For refrigerator cars an elastic material has been developed which will stretch and accommodate itself to the twisting of a car in motion. This type, it is claimed, is well adapted to insulate ice and milk trucks where rigid types of insulation would soon break down as the trucks pound over the roads.

The cold storage type of balsam-wool is used in household refrigerators, both of the electric and ice-cooled types, and is particularly adapted for these small boxes because it is easily fitted in around the corners; is orderless either wet or dry, and the chemical treatment it receives in manufacture gives it such properties that it will not support mildews or molds, and will not harbor vermin.

Over thirty different tests have been made by various public laboratories on the thermal conductivity of balsam-wool. These tests show its conductivity to range from 5.5 to 6.0 B. t. u. per square foot, per inch thickness, per one degree temperature difference in a 24-hour period, (or .229 to .25 B. t. u. in a one-hour period).

Balsam-wool was developed as a part of the conservation program of the Weyerhaeuser interests, and can be made from those products of sawmills too small in size to have other commercial value.

The Wood Conversion Company, Cloquet, Minnesota, manufacture and sell balsam-wool, and the production of this material amounts to many millions of feet per year. Their industrial sales office is at 360 North Michigan Avenue, Chicago.

USES OF ALUMINUM IN THE REFRIGERATION FIELD

The use of aluminum in the refrigeration industry has grown considerably during the last few years. In 1927 over one million pounds of this metal were used by manufacturers of cabinets and electrical refrigeration units in one form or another. Probably the largest use of aluminum is for trim. It is furnished in the form of mouldings, either extruded or rolled from sheet, or in the form of flat sheet strips. This trim when polished has an enduring and very attractive finish and as there is not plating to peel or wear off, the metal does not rust or corrode when exposed to air or moisture.

Another use for aluminum in the electrical refrigeration units is for ice cube trays and grids. Several of the largest manufacturers are now using these in production. The aluminum tray and grid combination is popular because it is easily handled and being made of a homogenous metal, there is no plating to peel off. It appeals to the modern woman also who equips her kitchen with aluminum cooking utensils because they are easy to keep clean and foods cooked or contained in aluminum are not contaminated in any way.

Other uses for aluminum in this industry are cast aluminum drain traps, aluminum wire racks and rack supports, aluminum tubing for cooling units, cast housings for cooling units, and miscellaneous screw machine and forging parts. In general the advantages of aluminum in these parts are light weight, freedom from corrosion, and ease of machining.

Promising experimental work is now going on in regard to the use of aluminum parts such as pistons, connecting rods, valve plates, cylinder heads, and cylinder blocks. Reciprocating parts in the compressor units, made of aluminum assist materially in increasing efficiency because of higher heat conductivity and at the same time reduce vibration, adding to the life of the unit and minimizing objectionable noise.

GRAND RAPIDS BRASS PRESIDENT SAYS "GET THE BUYER'S VIEWPOINT"

Help the Manufacturer by Determining the Customer's Demands

New industries always call forth fresh viewpoints, original creative effort. With new makers constantly appearing above the horizon, bringing out their new models, the company that serves them with appropriate hardware must be ever on the alert for new ideas and new designs.

This explains why, in its Grand Rapids plant, a large percentage of the entire floor space of this company is devoted to designing and pattern making, tool making and experimental work. Patterns are becoming obsolete with starting rapidity in the refrigeration field. Always, there is a need for something better, something more efficient, something that will reduce even slightly the sales resistance to any given make of refrigerator.

In the showrooms of the Grand Rapids Brass Co. are contained over 600 models of latches, catches, hinges, locks, and many other brass items needed for exterior trim. In addition, this concern manufactures corners, drip traps, knobs, handles, and intricate screw machine products. The investment in tools and special dies is said to be very large. When a manufacturer needs something new, different, or individual, the experimental and creative departments are immediately turned loose on the problem.

"Our jobs," says J. L. Murray, president, "is only incidentally to make hardware for electric refrigerators and coolers. The big problem is to get the viewpoint of the refrigeration manufacturer's customer. What does he like? What can we make that will impress the final customer with the thought that here is something new, original, more efficient? Can we turn out models that will react to the benefit of the firm we make them for?

"We think we are solving these questions. If, through our efforts, we can make good hardware that in turn represents a practical improvement upon what has gone before, we are obviously doing what we were put here to do."

Electro-Kold Opens New Office in Portland

Electro-Kold Corporation, Spokane, Wash., announces the opening of new offices in Portland, Oregon, to be known as the Electro-Kold Sales Co., of Portland, Ore., at 227 Sixth St. E. P. Hample is in charge of this office.

Sarasohn Gets His Man—and a Signed Contract, Right on the Job

Josh Sarasohn, who heads the apartment house division of the Detroit retail sales office for Absopure Frigerator, is both an LL.B. and ex-journalist. He has carried over with him into his new field of endeavor a page from the experience ledgers of both professions, as evidenced by the picture above—"A Contract is a Meeting of the Minds" and "Get the Story, Now!" seem to be two of the reasons why Mr. Sarasohn brings home the bacon.

Builders are notoriously difficult men to see. Their days are spent between the offices of their architects down town or—out on the job. Sometimes "out on the job" means a precarious perch on a steel girder 50 feet up in the air; sometimes, in an excavation, weeks before the girders rise. But Sarasohn follows his man to where the staccato of the riveter or an occasional splash of plaster act as inspiration rather than deterrent.

"When I get my prospect to where he and I are set on price, terms, specifications, then is the psychological moment to get the signature on the dotted line. Many things may arise between the time we arrive at an understanding and the hours it takes to get to the office, have the contract typed and locate my customer all over again. So I carry a supply of contract blanks with me, and a portable typewriter. A pile of lumber or a stack of concrete blocks makes a fine desk."

The above "location" is 19181 Omira Avenue, where Simon Brothers are just completing an income bungalow. The picture shows, beside Mr. Sarasohn at the typewriter, Jack Simon, who has just agreed to have 1930 Philadelphia Avenue—a 27-family apartment—equipped with Absopure, directly in back of Absopure's salesman. With Mr. Simon are Nathan Linden and Louis Oppenheim, both builders, who happened to be looking over Simon's bungalow. Mr. Linden, who is building two 13-family flats, and Mr. Oppenheim, who is erecting a 13-family and an 11-family, were evidently impressed with Absopure, because Sarasohn, who fortunately had a sufficiency of contract blanks in his portfolio, brought in the signed orders on their jobs too at the same time.

Engineer Describes the Ideal Cabinet Design

Says Method of Mounting Insulation in the Refrigerator Determines Its Value

An Address by William F. Grupe, Chief Engineer, Cork Import Corporation, before the New York Section, American Society of Refrigerating Engineers, at the Machinery Club, New York City, March 21, 1928

AS a producer of corkboard, I have noticed the increased use of insulation in the individual household box. Whereas in the past the average thickness of insulation used was about 1 inch, the present average is 2 inches, some boxes being made up with 3 inches or 4 inches thickness. However, it is not only the thickness of insulation used that determines the value of the box, but the manner in which this insulation is mounted in the box.

The effectiveness of a household refrigerator is controlled, to a large degree, by the method of placing or mounting the insulation. The factors that enter into this are the structural members, which act as supports for the insulation, the cover or protecting mediums used to envelop or seal the surface of the insulation, the method of fastening the insulation in place, and the final seal of the insulation in conjunction with the structure of the box itself.

Generally a layer of cork, made up of various pieces of cork sheets, is slipped between the frames and against the inner shell or crock. Between the cork and the inner or outer shell are placed layers of a material like water-proof paper or felt. Air spaces, varying from ¼ inch to ⅝ inch are allowed on both sides of the cork, particularly between the insulation and the inner crock, which is inclined to warp during the enameling process. In some cases the space between the insulation and the inside and outside shell is filled with asphalt. It is impossible to have a snug or tight fit between the insulation and the inner crock, due to the crock's warped condition and due also to the presence of the nuts that hold the shelf hooks, which prevent close contact with the surface of the crock or inner shell.

The area of the insulating material is controlled by the size and design of the structural members composing the frame and supports for the crock and insulation. At least twelve pieces of cork are used to insulate the average seven-foot box.

Where a wooden frame is used the four upright pieces and the cross members fill up most of the space at the twelve corners or edges of the box, preventing the placing of insulation of any volume of thickness at the corners. The insulation value of the wood used for frame work is very low as compared to cork. The asphalt, which is usually used to fill up the space between the many pieces of corkboard used, and the spaces between the many cork sheets themselves, and the frame or supporting piece, tends to raise the conductivity of the insulated walls, due to the high conductivity of the walls of asphalt extending from the inner crock to the outer shell.

Heat Loss at Corners

When the inner lining is flanged it is fastened to the wooden frame by means of screws, and the joint between the flange and the frame is usually sealed by a plastic material, which in time hardens out, and then due to the vibration and bending strains set up in the box, this joint will open, permitting air leaks between the food chamber and the air spaces behind the food chamber. This, in turn, results in bad odors in the box itself. Due to the poor insulation at all corners of the box we have increased heat leakage at this point, and double the surface area exposed as compared to the flat walls, where we have high insulation with half the surface area exposed.

To improve the general appearance of the outside of most boxes, they are covered with a metal sheet. This sheet, in many instances, extends into the door opening, which carries it past the outside gasket, permitting direct contact with the chilled air inside the refrigerator, materially lowering the efficiency of the box.

A box built of two steel shells, with insulation packed between the two shells, with no frame construction beyond these two shells, is a decided improvement, but has the disadvantage that the door opening presents a problem, in that if an all metal seal is used the conductivity is high, and if any joint is used it is liable to leakage, and leakage in this sealed type of box would naturally ruin the insulation. The problem of finishing these shells in vitreous enamel is still to be practically solved. If the insulation is fibrous or granular, and it is tamped in without a binder, it will tend to settle and leave the upper portion of the box free of insulation. Its insulating value is very susceptible to any leakage in the casing. If a bond is used with the granules it naturally lowers the insulation value of the product used. A greater thickness of insulation must therefore be allowed or provided for.

The ultimate achievement in structural design for a refrigerator provides for a continuous layer of insulation enclosing the space to be cooled, with only the door openings breaking the continuity of insulation, using a wooden door frame, to which the inner shell is fastened.

Ideal Design for Insulation

A box built on this principle would be built up of five pieces of cork, the joints cemented with either water-proof cement or asphalt, enclosing an inner shell, the front of which is closed by a door frame with a single sheet of cork mounted in the door, with no layers of paper or other material between the inner shell and the crock, and no breaks in the given thickness of insulation at any point surrounding the inner shell. This is an ideal design for insulation, the insulation when mounted forming a self-supporting box with a continuous layer of insulation enclosing the space to be cooled.

This cork box is mounted in an angle iron frame, which encloses it at all corners or edges, thus acting as a support and protection, and also acting as a support for the hinges and locks of the door, relieving the insulation or box proper from any of the door strains. Machine screws hold the door hardware, rather than wood screws which are used where a wooden frame is used. Enameled plates are laid on all four sides and slipped under the angle iron, the angle iron acting as a binder or support for the steel plates which act as the external surface of the box. No asphalt need be used to seal the cork.

This form of construction will not lose its stability nor break down in its insulation value if the box is roughly handled in shipping or moving, due to the rigidity of the angle iron frame, and also due to the fact that the cork insulation is cemented in box form independent of the frame. In boxes using a wooden frame any shock on one corner of the box, such as dropping the box, tends to twist the entire frame, which in turn loosens up the insulation and in turn creates leaks, which are the cause of odors. Thus the all cork box with steel frame will not do. The opening and closing of the doors will not strain the insulation nor loosen it, as the doors are mounted on the frame, which is on the outside of the insulation. Where a mechanical unit is used the vibration of the unit cannot break the seal between the insulation and the frame, nor open the seal between the inner shell and the insulation, nor in any other way loosen the structure of the box.

A box built with its sides composed of a single sheet of cork of 2 inches to 4 inches thickness, will perform satisfactorily enough to justify the installation of a thermometer in the door of the box, registering the temperature in the milk compartment. This we have done in the sample boxes built on this principle. The thermometer at all times keeps the housewife informed as to the temperature in the box, and the need of re-icing or attention to the unit.

Advertising is Selling Idea of Good Insulation to the Public

The purchaser's attention is now being drawn to the need of good insulation through the medium of national advertising. Good insulation will conserve the energy used either in the form of ice or current. The future success of household refrigeration will depend largely upon the economy of operation, and by the use of more and better insulation the relative proportion of food space to the cubic contents of the entire box is increased, which economy will pay both the manufacturer and the consumer.

CLEVER ICE CUBE PUBLICITY STUNT USED AT DAYTONA BEACH

Eighty pounds of ice cubes every ten minutes was the load consumed by the cooling system of Frank Lockhart's Stutz Black Hawk racer which attained a speed of 225 miles an hour before turning into the sea and injuring the driver recently at Daytona Beach, Fla.

Finding that the motor needed this special type of cooling arrangement, J. D. Newman, manager of the Daytona Beach property of the Florida Power & Light Co., and C. A. Garrett, sales manager, recognized the possibilities and immediately arranged to supply Lockhart's car with ice. The situation was taken care of by mounting a General Electric refrigerator on a truck and following the racer along the beach.

Refrigeration Doors Slammed 50,000 Times to Test Fittings and Insulation

Effect of Laboratory Test Said to be Equivalent to More Than 14 Years of Actual Use

The following report (No. 407) of a test conducted on a Plymetl refrigerator door by Dr. Drushel at the laboratory of the Haskelite Manufacturing Corp., Grand Rapids, Mich., was furnished by this company in answer to a request recently issued by ELECTRIC REFRIGERATION NEWS for data which would focus attention upon the details of design and construction of electric refrigerator cabinets.

The purpose of this test was to determine the effect (1) upon the door insulation and (2) upon the door fastenings of repeated slamming of the doors.

Refrigeration Test—Door Slamming

The purpose of this test was to determine the effect (1) upon the door insulation and (2) upon the door fastenings of repeated slamming of the doors.

A stock H-7-V box was taken and the doors were insulated with 2 inches of Dry Zero cut to size and shape and fitted in place with the asphalt paper side next to the Vitrolite door slabs. The vitrolite sheets were held in place by the usual aluminum moulding strips and nickeled brass screws.

The first part of the test was made on the left door with the right door closed. The left door was held shut by a common screen door spring attached to the inside of the door and the back wall of the refrigerator. With the door closed the pull on the spring was about 1 lb. With the door opened 10 inches the pull was approximately 12 lbs. By means of a wire attached to the door half way between the top and bottom and opposite the spring attachment, and to a lever driven mechanically, the door was pulled open and allowed to fly shut through the spring action about 30 times a minue. A counter was arranged to record the number of times the door was made to slam.

At the end of 50,000 slams the Vitrolite back of the door was removed to examine the Dry Zero insulation. The insulation was found to be in perfect condition. It had not settled a particle and was still fitting tightly at the top of the door, as well as sides and bottom. Some of the screws in the moulding strip had loosened slightly. Also some of the screws in the door hinges had loosened a trifle, not over a quarter turn in any case.

The door gasket tested in the usual way with tissue paper appeared to fit as tightly all around the door as is customary in newly finished boxes. The effectiveness of the gasket was not diminished perceptibly in this test.

In the second part of the test, run on the right hand door, the left door was open. This increased the violence of the slamming. The opening distance was reduced from 12 inches to 10 inches. Still the slamming appeared to be more severe than in the first part of the test. This, of course, was due to the absence of the air cushion which modified the slamming in the first part of the test.

At the end of 50,000 slams the vitrolite was removed from the door and the Dry Zero insulation was found in perfect condition, not having settled a particle. Seven of the screws in the aluminum moulding had become somewhat loose, two having worked out about one-sixteenth of an inch. None of the hinge screws had loosened appreciably. The gasket remained in perfect condition.

The box suffered no injury in this rather severe slamming test. Each slam was considerably more severe than a box would receive in actual use.

If we allow 10 slams daily per door this test was equivalent to more than 14 years of actual use, yet the hinges, gaskets, and insulation remained in perfect condition. No wear was perceptible in either hinges or gaskets.

We are of the opinion from the observation of this test that the mechanical ruggedness of the Plymetl refrigerator is such as to assure a lifetime of service without the failure of any of the structural parts.

Dry Zero insulation may be used in the doors without any fear that it will settle during use.

Lincoln, Nebr., Welsbach Distributor Finds Demonstration Truck an Aid in Making Dealer Connections

The photograph above shows one of two demonstration trucks which have been equipped by R. S. Proudfit Company, Lincoln, Nebr., distributors of Welsbach electric refrigeration units. These trucks have been put into service to speed up the process of getting new dealers under the distributorship of the Proudfit Company. With these trucks the salesman drives up to the prospective dealers store and demonstrates the Welsbach unit contained within without taking it out of the car.

Frank S. Proudfit, vice-president of the company, states that this manner of showing the refrigerator has proved very satisfactory and that while it has only been used for a short time, twenty dealers have already been signed up.

Connecticut Kelvinator Dealers Hold Annual Convention

The annual convention of the Kelvinator dealers of Connecticut was held in New Haven on March 14 under the auspices of the Kelvinator Refrigerating Co., of that city.

C. K. Woodbridge, president of the Kelvinator Corporation was present at the meeting and was the principal speaker on the day's program.

Over 100 dealers from all parts of the state attended the convention which was brought to a close with a banquet at Waverly Inn, Cheshire. George R. Mance is president of the company.

N. E. L. A. Southeastern Division In New Location

The address of the Southeastern Division of the National Electric Light Association has been changed from 402 Wynne-Claughton Building, to 207-8 Bona Allen Building, Atlanta, Ga.

Bright Colors Good for Display Models But Buyers Select Softer Tones and Simple Decorations

By F. J. Hurtz, Vice-President, Bradley-Hurtz Company, Manufacturers of Enamels, Laquers, Varnishes and Paints

The use of color in kitchens has been gradually increasing for some years, first in the linoleum and then in tables, chairs, cabinets, wall decorations, curtains, and has finally spread to refrigerators and porcelain sinks and drain boards.

With color usually comes decoration. Plain white seems to repel the idea of ornate decorations. Colors, however, seem to need them as a complement.

For some years certain manufacturers of kitchen cabinets, breakfast sets, etc., have seen the approaching demand for color and have from time to time, without request from their customers, added a single color here and there, keeping the decorations down to a simple form. This has made their manufacturing problem relatively simple.

Some manufacturers of electric refrigeration, either hoping to meet or kill the demand for colors, produced boxes of startling colors and ornate decorations. These have proven good display room models but have not sold to the consumer. Some companies, employing this method in their show rooms, but confining their selling line to a few simple colors and decorations, have met with considerable success.

Conservative manufacturers who have limited their line to white and gray are reporting their gray sales increasing materially. Producers of porcelain boxes have pretty well confined their line to simple colors and not over two colors to a box. The decorations have been limited mostly to border stripes and single color center decorations.

The manufacturer who restricts his line to soft colors and simple decorations will find his sales increasing, whereas the one giving the trade startling colors and ornate decorations will be losing volume.

The sale of color is fast getting into the low priced line. One manufacturer is now marketing the cheapest type of apartment house box in several handsome colors.

Practical Refrigerating Engineers Hear Talk on Motors

C. D. Kester, of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., addressed the convention of the National Association of Practical Refrigerating Engineers on the subject of electric motors for modern refrigerating equipment, April 5. The meeting was held at 29 West 39th St., New York City.

Essential Features in the Construction and Design of Electric Refrigerator Cabinets

BOHN OFFERS NEW SANITOR CABINETS FOR ELECTRIC EQUIPMENT

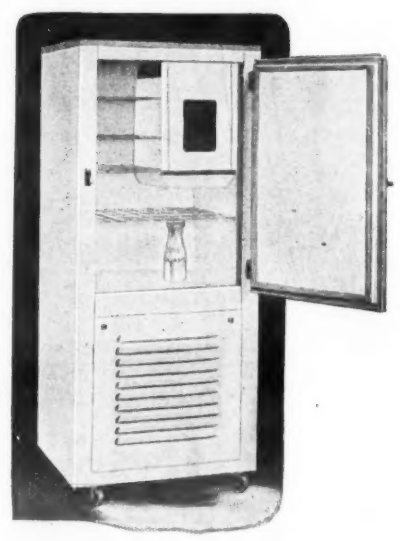
The Bohn Refrigerator Co., St. Paul, Minn., has added to its line the new Sanitor cabinets for electric refrigeration. These cabinets all have porcelain exteriors and interiors and are equipped with a compartment in the base in which the compressing unit may be placed. The cooling chamber is fitted with hanger bolts and a sleeved opening for the copper tubing of the electric refrigeration unit.

A porcelain shield for the cooling chamber door is available if desired. A complete pipe drainage system is provided to take care of water that accumulates when the cooling unit is defrosted.

The construction of the walls of these Sanitor refrigerators, shows 12 thicknesses of material starting on the exterior with the porcelain enamel on steel, followed by one thickness of compo board which in turn is followed by black waterproof paper. A layer of wool felt is next in place followed by a dead air space. Two thicknesses of flaxlinum are followed by two thicknesses of wool felt, black waterproof paper, compo board, dead air space, and lastly the porcelain enamel lining.

The Bohn-Deluxe refrigerators are built entirely by hand in a special department. A specially prepared heavy porcelain enameling stock is used for this series. The tubular trim as well as all hardware is of brass heavily nickel plated. Fasteners are very heavy and are self closing. Fourteen walls of insulation include two thicknesses of flaxlinum.

Included in the Bohn line in addition to the two series mentioned above are the standard Bohn syphon refrigerators with porcelain interior and exterior. In these models, an improved door construction is incorporated, the porcelain being carried clear across the edges of the doors which are equipped with cushion gaskets. Nickel trim is used. These cabinets are equipped with lugs in the ceiling of the ice chamber, to accommodate hanger bolts where electric refrigeration is used, and a sleeved hole is placed at the back of the ice chamber for the entrance of tubing.



Alaska Model 515

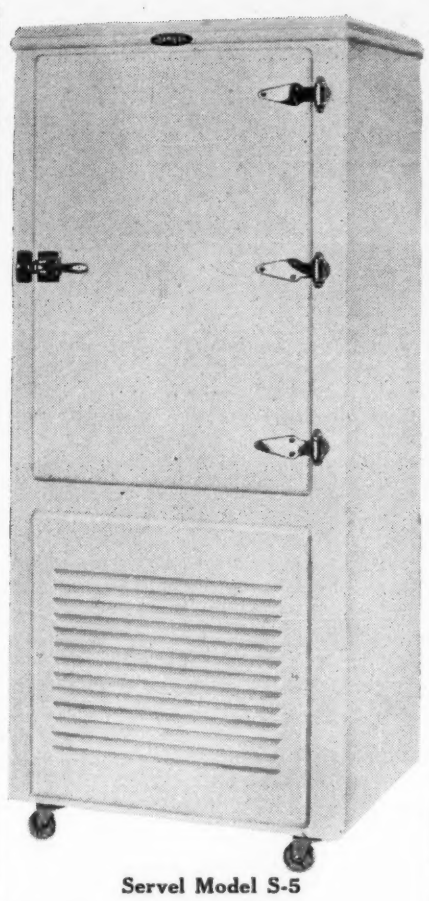
ALASKA CORK WALL WINDOW AN EXCLUSIVE IDENTIFICATION MARK

Seeing is believing and the Alaska Refrigerator Co. takes advantage of this fact by using their cork wall window, a device the purpose of which is to make visible the cork board insulation found in all Alaska refrigerators.

Representative of the larger sizes of Alaska refrigerators, particularly fitted for use with the electric refrigeration, is model No. 1615. Insulation in this cabinet is 2 inch cork-board in the walls, top, and doors and 3 inch cork-board in the bottom. This model has 16.5 cubic feet capacity in the food chambers. The finish, both interior and exterior is of vitreous porcelain fused on ingot iron and available in white and a number of different color combinations.

Representative of the smaller Alaska cabinets is model No. 515 which has 5.28 cubic feet capacity in the food chamber. Insulation is of 1½ inch cork-board in walls, top, and doors with 2 inch cork-board in the bottom. The exterior is of lacquered steel and the interior is white enamel finish.

Between these two cabinets on which specifications have been given here, are a number of other models differing in specifications according to their size and which have the same general construction features as the two cabinets described.



Servel Model S-5

SERVEL LACQUERS APPLIED IN LAYERS BY SPECIAL PROCESS

Newest in the line of electric refrigerators offered by Servel Sales, Inc., Evansville, Ind., is the model H-5, a cabinet which has 5 cubic feet food storage capacity. This cabinet may be had with an exterior of white or in four different colors: silver gray, crystal green, biscay blue and ivory. These are lacquer finishes applied in several veils or layers in various harmonious tones by means of a compressed air process. The interior of these refrigerators is of white vitreous porcelain on Armco iron. The cabinet of the H-5 Servel is of heavy gauge cold rolled steel, treated on both sides and all edges with special rust resisting compound.

Insulation is 1½ inch cork-board on the side and is of 2 inch cork-board on the bottom.

The S line of Servel cabinets has a one piece liner coated with fused porcelain. Porcelain covered front panels are supplied with the chilling unit. The ice cube trays also have fronts of porcelain. Cork board insulation is used and is treated with hydroline.

The cabinet of the Electrolux machine manufactured by Servel has an interior and exterior finish of lacquer and may be had in either white or optional colors of gray, tan, green and blue.

The hardware is of heavy nickel plated brass. The interior liner is of white vitreous porcelain on Armco iron. The all steel cabinet is insulated with cork board.

In addition to the line of Servel refrigerators, the Servel water cooler is available for use with either city water or bottled water. In general the construction of the water cooler is the same as that of the refrigerators. An all steel cabinet is used with cork board insulation and lacquer finish is available in white or in colors.

HARDER CORP. USES BOTH CORKBOARD AND CELOTEX INSULATION

Kleen-Kold refrigerators, manufactured by the Harder Refrigeration Corp., Cobbleskill, N. Y., have an exterior and interior finish of porcelain on steel. The walls, which are 4 inches thick, contain an insulation made up of 2 inches of cork board and celotex. The hardware and trimmings are of solid brass, heavily nickel plated. Shelves are of the straight bar type, heavily tinned. The ice chamber is equipped with hanger bolts and an outlet for tubing so that electric refrigeration may be easily installed.

Harder also manufactures a line of steel refrigerators finished with pyralin lacquer in either white or gray. The walls are three inches thick which include a wood case, two inches of cork, and several layers of asphalt sheathing. Hardware as in the case of the Kleen-Kold model is of solid brass heavily nickel plated. Edge and corner trim is nickeled silver. These cabinets are also equipped with studs and an outlet hole for use with electric refrigeration.

WRAPPED CORKBOARD USED IN SEEGER 4-IN-1 CABINETS

Something different in the use of color in refrigerators has been introduced by the Seeger Refrigerator Co., St. Paul, in the form of an exterior porcelain finish available in cirrus pastel shades of green, gray and old ivory which in appearance very closely resembles marble. The construction of these cabinets includes the use of wrapped pure cork board as insulation and it is said by the manufacturers that laboratory tests have proved a 3 per cent less expenditure for ice together with a 5 degree lower temperature than has been registered in any cabinet made by Seeger previous to the introduction of the four-in-one line designed for use with either ice, electric, gas or mechanical refrigeration. The trim is of Monel metal. Large sturdy hinges and roller type locks of solid brass with triple nickel plated finish are used. The doors have double gaskets.

The interior arrangement of these cabinets provides removable shelves with ample space provided for tall water bottle. The Seeger chiltray, also of porcelain and directly below the refrigeration unit, is for the adequate chilling of foods such as celery, olives, and may also be used as a receptacle for surplus ice cubes.

The vegetable storage compartment in the base of the cabinet provides a place for keeping vegetables where a constant circulation of air will be available. The entire vegetable compartment tilts forward and is removable for cleaning.

Seeger cabinets for commercial refrigeration purposes are available in either all white porcelain exterior and interior or in flush panel, oak exterior with white porcelain interior. Cabinets of extra heavy construction, insulated with wrapper pure cork board. Shelves of heavy wire, retinned, after application. These cabinets are also available in colored porcelain upon special order.

Porcelain Lined McCray

McCRAY IS BUILDING A NEW ALL-METAL DOMESTIC CABINET

McCray Refrigerator Sales Co., Kendallville, Indiana, not only builds commercial refrigerators in a large variety of styles and sizes but also builds a complete line of household cabinets.

Recently this company has developed an all metal cabinet for domestic installation. The interior of this new model is of automobile steel. Joints are brazed together making it practically a one piece construction and eliminating the metal strip. Pyroxlyn lacquer is then applied to this steel.

The doors of these McCray models have a ¾ inch raise provided with a gasket which makes the cabinet practically air tight. The hardware and hinges are of heavy brass nickel plated. The fasteners are of the self closing type.

The lining is of one piece porcelain. Porcelain is also used on the interior of the doors. The walls are insulated with 2 inches of cork-board, sealed with hydroline cement. Other refrigerators in the McCray line are available with quarter-sawed oak exterior instead of the metal with lacquer finish. This quarter-sawed oak is made of 5 ply laminated wood. The doors as well as the ends are flush. The top and bottom are so constructed that the plywood is not exposed to the outside.

BENJAMIN CRYSTEEL CABINETS HAVE MANY CONVENIENT FEATURES

Crysteel refrigerators, manufactured by the Benjamin Electric Mfg. Co., Chicago, Ill., are made in sizes to fit all apartment and residential requirements and are designed to take any standard electric refrigeration unit. Among the interesting construction features incorporated in Crysteel cabinets is the lustrous frost white enamel interior and exterior. The interior is one piece, seamless. The exterior is edged with a striking black trim. The top is also black.

Rounded radius corners add to the appearance of the cabinets and interior electric lights, compartments of the right height to avoid stooping, heavily tinned wire shelves and floor compartment raised above sill level also add to the convenience of these refrigerators.

Pure sheet cork-board insulation, sealed with hydroline, a kiln dried, rabbetted, glued in hard wood frame, air tight gasketed doors, oversize hardware and automatic trip locks all add to the operating efficiency of the cabinet.

The apartment models have five cubic feet of food storage capacity and 7.25 square feet of shelf area. The residence models are made in six sizes, ranging from 5.5 cubic feet net food storage space to 18.5 cubic feet.

"I want to take advantage of this opportunity to compliment you upon the issue of March 28. It shows nice progress. There is a lot of good reading in it." Jos. T. McKinney, advertising manager, Rex Mfg. Co.

RANNEY FEATURES SOLID ASH CABINET WITH PORCELAIN LINING

Ranney "Supreme" refrigerators, manufactured by the Ranney Refrigerator Co., Greenville, Mich., have a solid ash case over a solid one piece porcelain lining. Insulation is of pure cork board. The door hinges and fasteners are of nickel plated brass and are so designed that they are automatically fastened with the closing of the refrigerator door.

The shelves are of steel wire woven on a heavy steel wire frame and heavily tinned. These cabinets are finished in three coats of filler and water proof varnish, giving them a gloss finish that is said to look well and at the same time wear well.

In addition to these models, the Ranney Company manufactures another line of domestic refrigerators designed to meet the requirements of those who wish to invest in a less expensive cabinet.

See page 14 for additional data on electric refrigerator cabinets.

Three Important Points in the Design of a Refrigerator Cabinet

(1) Air Tight Construction. (2) Effective Insulation. (3) Cold, Dry, Air Circulation

There are three points for which refrigerator cabinets are judged, according to Edward N. Northey, Herrick Refrigerator & Cold Storage Co., Waterloo, Iowa, and these are; air tight construction, effective insulation, and cold dry air circulation. There are, of course, added features which make the refrigerator more desired and these are pointed out in a detailed description of the design and construction of Herrick refrigerators.

Herrick cases are made of oak, either quarter-sawed or in select plain oak-paneled. The paneled cases are equipped with expansion and contraction panels which compensate the movement without showing cracks in the case. Kiln dried oak is used and all cases are filled, rubbed and varnished with a special coat varnish. All styles are also furnished with finish, with primed coat in white enamel or to match any color sample required by the customer.

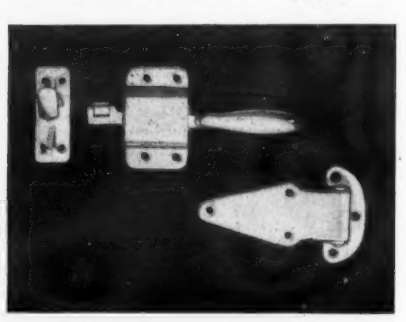
Four types of lining material are used, namely vitrolite glass, porcelain, white enamel and spruce. Vitrolite lining are installed i nplate form and held in place by aluminum molding and white cement. This type of lining is used in Deluxe models. Porcelain linings are made of special Armco iron and put in the refrigerator in one piece in the shape of a large tank. All porcelain lined cases have holes drilled for the installation of electric refrigeration equipment. White enamel and spruce linings of ⅜ inch matched clear spruce or large sections are spruce veneer. These lining have proven satisfactory through years of service in the field. The enamel lining is of a special three coat process built up over a case of spruce. Porcelain and glass linings are backed by spruce.

Herrick uses the triplex insulation, so called because of the outside oak case, the heavy mineral wool in between the spruce lining and the spruce backing and the glass porcelain are all effective insulations. The cut shows a wall section of a Herrick cabinet, ⅛ actual size. First comes the oak wall, followed by heavy insulation sheeting, then the thick wall of mineral wool, insulation sheeting, heavy spruce lining, corrugated paper and then the glass interior lining.

The best grade of mineral wool packed by skilled workmen has proven satisfactory to the Herrick Company for many years. They point to the high efficiency of this insulation and indicated by tests by the U. S. Bureau of Standards. They also point out that mineral wool has the faculty of being packed closer to the wall supports than any other material.

All Herrick cabinets are equipped with

Section of Refrigerator Wall



Examples of Herrick Hardware

heavy brass hardware, nickel plated. Wire mesh shelves are triple tin. The drainage system in all Herrick refrigerators is removeable without the use of tools and pipes are heavy galvanized iron and aluminum. Heavy duty castors are furnished with all models.

Frigidaire Branch Opened at Malden, Mass.

A Frigidaire branch office has been opened at Malden, Mass., at 14 South Washington Street, under the management of M. P. Ford. A full line of parts will be carried at the branch, so that the servicing will not be delayed. Engineers will also be available for handling installations requiring a technical knowledge. It is planned that the branch office will be used occasionally as a meeting room for women's organizations.

Eureka, Kans. Dealer Addresses Church Organizations

As a means of advertising electric refrigeration, the Eureka Machine Works, Eureka, Kans., local Frigidaire dealers, gave a series of demonstrations and lectures before the ladies societies of four Eureka churches on March 19 and 20. Mr. Boyersmith, of the local agency, was assisted by E. L. Crabb, district sales supervisor of the Frigidaire Corporation, A. C. Ray, vice-president of the S. A. Long Electric Co., Wichita, Kans.

City to Supply Ice At Cost

Parkes, Australia, plans to have a municipal artificial ice plant and supply ice to the people of the city at almost cost.

MAINE CABINETS HAVE INTERIOR LINING OF SOLID QUARRIED STONE

The Main Mfg. Co., Nashua, N. H., features for use with electric refrigeration its "Stone White Deluxe" refrigerators which are unusual in that they have an interior lining of indestructible solid quarried stone in regard to which the company states, "Once thoroughly chilled, the ice cold walls are the greatest cold retainer known and form air tight, bone dry, dirt proof, sanitary provision chambers as easily cleaned as china.

The exterior of these cabinets is of five-ply, laminated, water-proofed oak. The doors are of the same construction. Insulation is of pure cork-board, two thickness of charcoal sheathing and one thickness of wall-board. Roller type locks are of nickel plated bronze with an automatic trigger feature. Hinges are extra heavy. Shelves are of heavy gauge, durably woven wire, double tinned. Casters are of heavy steel and are of the self retaining type.

The cooling unit chamber is supplied with four bolts to which any standard electric refrigeration cooling unit may be attached. A 1¼-inch bushing at the rear of the ice chamber is also standard so that no cutting of the refrigerator is necessary in installing the tubing for electric refrigeration. All doors are equipped with heavy rubber gaskets.

In addition to the "Stone-White Deluxe" cabinets, the Maine Manufacturing Co., also has available a line of less expensive refrigerators with the usual interior and exterior finishes.

CHALLENGE ICEBERG CABINETS INSULATED WITH CABOT QUILT

The "Iceberg" line of all porcelain refrigerators manufactured by the Challenge Refrigerator Co., Grand Haven, Mich., is the highest grade refrigerator manufactured by this company and is best suited to use with electric refrigeration. All cabinets in the Iceberg line are so constructed that they may be placed on a detachable base, thus providing a compartment underneath the food chamber for the compressing unit of an electric refrigeration system.

The case or exterior of the Iceberg cabinet is of Armco iron with three coats of vitreous porcelain fitted and joined with aluminum strips and held in place with nickel plated brass screws on a frame work which is a complete refrigerator made of ash lumber.

Doors are made overlapping with rounded edges which improves the general appearance of the refrigerator.

Insulation is of two walls of 5 ply Cabot quilt and 1 inch of sheet cork. The Cabot quilt consists of sea grass ½ inch thick. Two thicknesses of waterproof paper are placed on each side of the sea grass and stitched every three inches. These 5 ply walls of which there are two, border on the cork and an inner wood wall and form a complete circuit of the refrigerator without a break, thus making a seal all the way round.

Shelves are of woven wire, retinned. Trimmings are of solid brass, nickel plated. Hanger bolts in the cooling chamber and an opening in the back of the cabinet make provisions for equipping it with electric refrigeration.

In addition to the all porcelain models, Challenge refrigerators are also available with porcelain interior and ash exterior.

Thank You

"I think that the ELECTRIC REFRIGERATION NEWS is the biggest little paper I have ever seen."—Lawrence E. Abt, president, Hvid Ice Machine Corp.

LEONARD INTRODUCES 8 MODELS FOR ELECTRIC REFRIGERATION ONLY

The Leonard Refrigerator Co., Grand Rapids, Mich., a division of Kelvinator Corporation, has brought out 8 models designed for use with electric refrigeration only. Their insulation, construction and equipment are especially adapted to this use. Both exterior and interior of 6 of these models are white porcelain. The other two have white porcelain interior but the exteriors are of quarter-sawed oak finished in golden oak and dull lacquer.

Cork-board, 2 inches thick and sealed with odorless asphalt, is the back bone of the heat resistance in these cabinets. The doors are fitted with double gaskets.

The frame is a special Leonard post construction which makes it possible for the insulating cork-board to be lapped and sealed at the corners.

There are hanger bushings in the cooling chamber for the suspension of the electric refrigeration cooling unit. A sealed perforation is also supplied so that the tubes for this installation may be easily placed. A porcelain baffle plate, and a drip pan for the cooling chamber is standard equipment as is also an extra shelf in the base compartment. This last item is intended for storing food in the base where the electric refrigeration compressing unit is placed in the basement or other remote quarters. The porcelain of these cabinets is in white, trimmed with a French gray, porcelain border, making a neat and attractive finish.

GIBSON COMPANY TO HAVE NEW LINE OF ELECTRIC REFRIGERATION CABINETS

A new line of cabinets for electric refrigeration will shortly be announced by Gibson Refrigerator Co., Greenville, Mich. The sizes will be 5, 7, 9, 12 and 18 cubic feet. Two and three inches of cork-board insulation will be used, sealed with hydrolene. The provision compartment will be one-piece porcelain. The exterior will be porcelain in one series and lacquer over super-polished steel on another series. Hardware will be cast manganese bronze of a special design.

In addition to the new line, the Gibson company will continue to furnish the present range of styles and sizes in all porcelain exteriors with 2½ inches and 3 inches of cork-board insulation, one piece porcelain lined provision compartment for either ice or electric refrigeration.

REX STANDARDIZES ON CORKBOARD FOR ALL RESIDENTIAL MODELS

A line of refrigerators offered by the Rex Manufacturing Co., of Connersville, Indiana, embraces domestic models ranging in sizes up to 15 cubic feet food capacity, and other models designed particularly for apartment homes, these being of approximately 5 cubic feet food capacity.

Armco iron sheets are used as standard material on all the domestic models. These sheets are mounted on a substantial and reinforced frame of odorless wood.

The insulation in Rex residential cabinets is of cork-board. Mineral wool is used as standard in the apartment house models with cork-board available on special order. The thickness of the insulation varies according to the size of the cabinet. Hydroline is used in all joints to protect the insulation and to insure long life.

Stamped brass, heavily nickel plated locks and hinges are used on Rex cabinets. As to finish, these refrigerators may be had with lacquer exterior and baked enamel or porcelain interior while others are available with both porcelain interior and exterior.

Describes Application of Silica Gel to Refrigerated Railway Cars

The silica gel refrigeration system as applied to a railway refrigerator car is interestingly described in an article accompanied by an explanatory diagram which appeared in the March issue of the *Railway Age*. The Safety Car Heating & Lighting Co., of New York, has had this car in service for a number of months and the article mentioned tells of the success which has been realized through the use of this interesting new method of refrigeration.

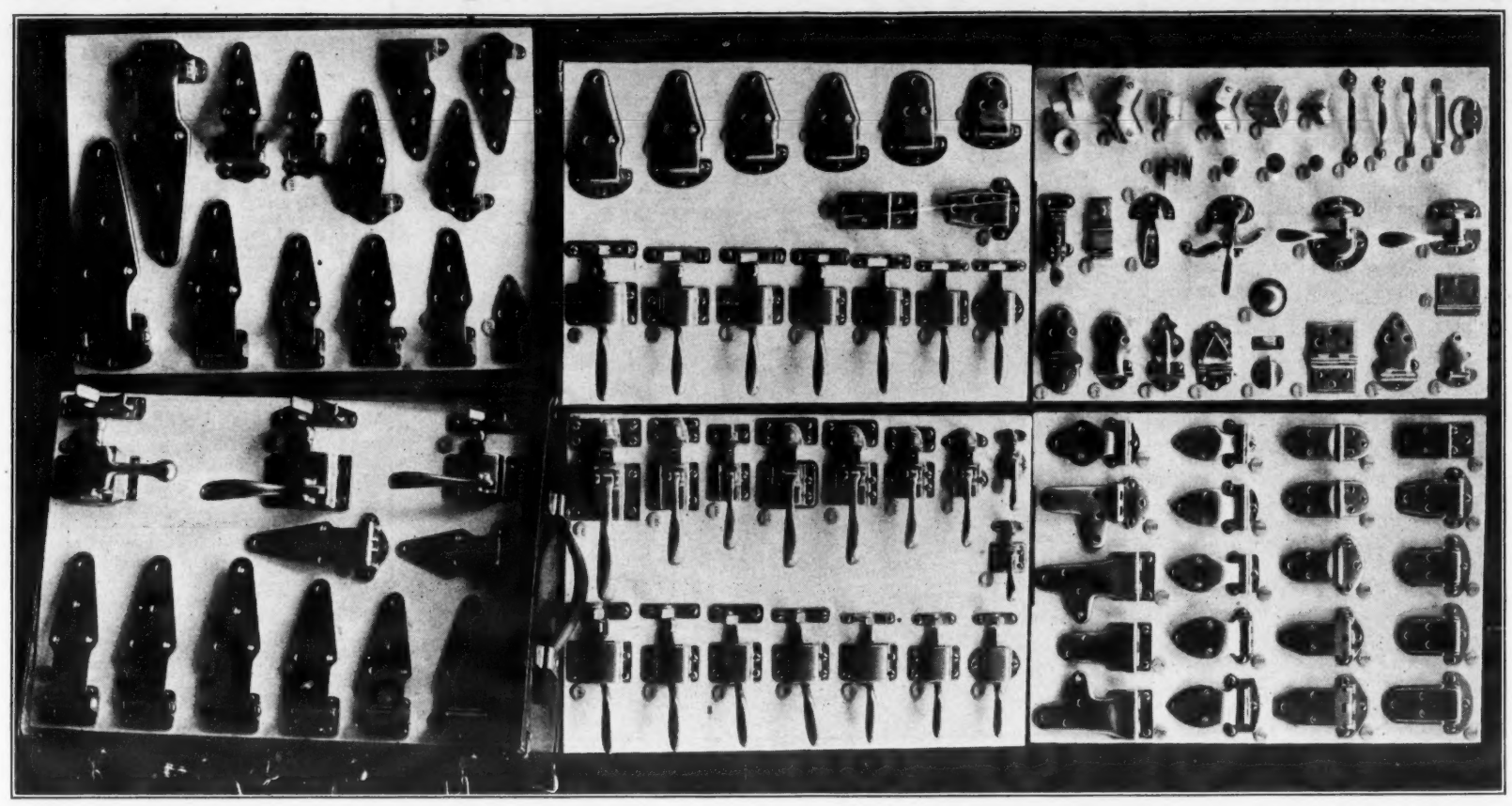
Supplied G. E. Unit For Cooking School

The R. O. Martin Hardware Co., Ponca City, Okla., supplied a General Electric refrigerator which was used in a cooking school recently held in Ponca City, under the auspices of the *Ponca City News*.

Displayed Refrigeration Units at Hartford Progress Show

Displays of electric refrigeration at the Home Progress show held recently in Hartford, Conn., were exhibited by the Hartford Electric Light Company, and the Automatic Refrigerating Company.

Actual Samples Facilitate Hardware Selection



How the Grand Rapids Brass Co. presents its line. The buyer is not asked to visualize his needs from the catalogue page, but is given a chance to handle and compare actual samples which the salesman carries in a case, a part of which appears in the lower left hand corner of the photograph.

CHAIN STORES OFFER ATTRACTIVE MARKET FOR 2-TEMPERATURE BOXES

Grocery Stores are Logical Outlet for Package Ice Cream for Home Consumption

By Charles E. Warsop, Refrigerating Distributors Installation Service Co. New York

Many methods of marketing which have been highly profitable in the past have gradually fallen into disuse and in their place new methods are being found to meet present day conditions. The world's largest chain of tea and grocery stores, has within a few months, put in an article which was previously foreign to their business with the result that sales of this item alone exceed those of tea. The product is none other than cigarettes, only two brands have been merchandised. Namely, Lucky Strikes and Camels. In the drug business many stores have developed the sale of ice cream to the point where it exceeds patent medicine and prescriptions, with equal or greater profit.

This year many retail and chain groceries are contemplating adding ice cream to be sold in sanitary packages, pints, half-pints and school sizes. Such stores must be supplied with proper refrigerating equipment if they are to handle the new line satisfactorily. It is reported that executives in the chain store field are already dickering with the ice cream manufacturers in regard to suitable equipment and are considering the matter of the required investment.

The opportunity for the electric refrigeration equipment manufacturers, as I see it, is to offer a type of equipment, especially adapted to chain store needs, namely a cabinet which will provide minus 10 degress F., for the ice cream together with a temperature of approximately 45 degrees for butter, lard, cheese, carbonated drinks and other products which must be kept above the freezing point.

In the year 1928 this is not a complex matter although some of the manufacturers may object to producing an additional line of equipment to meet the particular requirements of this field.

General Electric Buys $5,000,000 Worth of Cabinets In St. Paul

That General Electric refrigerators have brought $5,000,000 in business to St. Paul, Minn., in the last nine months, is the statement made by R. V. Mealey, sales manager in Ramsey, Dakota and Washington counties for Lambert & Simpson Company, General Electric refrigerator distributors in St. Paul. Mr. Mealey, in making this statement, pointed out that this money had been brought into the city through the Bohn and Seeger Refrigerator companies who are building cabinets for the General Electric Company. Mr. Mealey ranked twelfth among 3,000 competitors in a recent national General Electric sales contest.

Monkey Wrench Merchandising

A discussion of merchandising methods, old and new, good and bad, is contained in an article entitled "Monkey Wrench Merchandising," by James A. Collins, appearing in the April issue of *Printer's Ink Monthly*. Mr. Collins tells his story in a friendly way and touches on the merchandising of everything from chicken feed to Venetian pottery.

KODAK CO. HAS ALL KINDS OF TEMPERATURES MADE-TO-ORDER

Temperatures of the frigid Arctic and the blistering tropics are to be found in one small room in the Eastman Kodak Company's chemical laboratory here.

The cold of the Greenland plateau, the heat of the equatorial jungles, the aridity of Sahara and the salt-saturated atmosphere of the Atlantic seaboard are duplicated indoors by research chemists who test the physical endurance of cameras.

In making weather to order with the aid of refrigerators, electric ovens and brine baths, the scientists endeavor to go nature one better by creating severer conditions than will be met by even the most adventuresome and widely travelled camera.

Their synthetic desert air is just a little drier than Sahara's, their imitation of temperatures in the Amazon valley is just a little hotter than the real element, and their artificial fog is heavier and saltier than London's. The low temperatures made in the laboratory descend to levels that would make an Eskimo feel at home.

Weather is the camera's worst enemy; every part must be proof against all weather. When the tests disclose that a material breaks down under certain conditions, the research men put their heads together and eliminate the weakness.

NEW INSTALLATIONS HERE AND THERE REPORTED TO THE NEWS

Frigidaire equipment has been installed in the soda fountain and candy case of the Owl Drug Store in Chickasha, Okla.

Frigidaire equipment is included as a part of the new equipment of the Model Grocery Store at Carrolltown, Mo.

Holcomb & Hoke Mfg. Co. of Indianapolis, has supplied the display cases and Larribee Hardware Co., Inc., the Frigidaire equipment installed in the meat market of Henry Klaus & Son, 18 Guy Park Ave., Amsterdam, N. Y.

Storz & Eisenhard, Allentown, Pa., have installed Frigidaire equipment in the Bortz Butcher Shop at Macunagie, Pa.

The C. W. Garrison Store, Mount Hope, Kans., has installed a Frigidaire system in its meat cooler.

The Phenis Market & Grocery Co., Gage, Okla., has installed a market display counter, Frigidaire equipped.

A Frigidaire brine circulation system for cooling milk has recently been installed at Over Road Farm, Norwalk, Conn., by the Connecticut Light & Power Co.

The City Grocery & Market, Kaufman, Texas, has installed a Hussman Refrigerator, Frigidaire equipped.

Kelvinator electric refrigeration has been installed in the Y. W. C. A. in Dubuque, Iowa. Several different cooling units were required to handle the installation.

Kelvinator electric refrigerators are included in the equipment of five new homes recently erected by the American Building Co., San Antonio, Texas, on Primera Drive. Both sides of Primera Drive have been purchased by this company and the contemplated building program will cover both sides of the entire street.

Pinkerton's Drug Co., Franklin, Tenn., has recently installed a new Frigidaire ice cream cabinet.

The Norris Co., Youngstown, O., has installed two General Electric units, one of sixteen cubic feet storage and the other seven and one-half feet storage space in the new Christ Mission building.

Frigidaire equipment has been installed in Weikel's meat market, Paris, Texas.

The M. & M. Drug Company, Meade, Kans., has purchased a Frigidaire ice cream cabinet from the Innis Electric Co.

A Seeger all porcelain cabinet equipped with a Rice Products refrigerating unit has been installed in the Memorial Hospital, 335 West Grand Blvd., Detroit.

Electric refrigeration will be included as one of many conveniences in the Gaylord, an eight-story apartment hotel which is under construction at 5820 Kenmore Ave., Chicago. The building was designed by Oldefest & Williams. It is being financed by a $315,000 bond issue underwritten by the Fidelity Bond & Mortgage Co., St. Louis, and the owner is the 5820 Kenmore Building Corp.

COPELAND DEALERS IN TEXAS TOP SALES QUOTAS FOR MARCH

By Kathryn Maddrey

When dealers and representatives of Copeland electric refrigerators in Texas met in Dallas recently for their first state convention, there was evidence of the fulfilment of prophecies made at the close of 1927 as to what the new year would show. It was disclosed that every county had more than topped the mark set for it in March sales of Copeland units, one dealer even trebling the quota for him in his territory. Sales of this machine have increased 500 per cent in Texas within the last six months, it was stated.

The exhibit for the convention was arranged through the courtesy of the Phil H. Pierce Company, Inc., of Dallas, distributor for that city and twenty-two Northeastern Texas counties. H. B. Monaghan, formerly with the Strelinger-Copeland of Detroit, is manager of the Pierce Company, and Ralph W. Jones is Southwestern district sales manager.

Mr. Monaghan, who has been in Texas since November, believes that it will be only a short time before electric refrigeration sales in that state will outdistance, in proportion to its population, those in any other of the Union. He bases his belief on several considerations, first of which is the climate. Illustrative of this is that he found many instances of men buying electric refrigerators as Christmas presents for their wives; a pleasant sales factor which in most parts of the country do not meet. Ice is an all year round commodity, and in seasons of the year when refrigerators are sometimes iced twice a day, it is a very expensive necessity. The people he finds to be of a high level of average intelligence and of a disposition which lends a friendly contact to selling. They are thoroughly awake to the advantages of electric refrigeration and selling them becomes largely a problem of proving the reliability of the particular product and showing them it is not out of their reach financially.

Appointed Sales Manager for Norge in Seattle

The Norge Refrigeration Co., Seattle, Wash., has just appointed as sales manager, James D. Esary, Jr. Mr. Esary was for some time associated with the Power Plant Engineering Co. at Seattle.